

THE MEDICAL JOURNAL OF AUSTRALIA



VOL. II.—16TH YEAR.

SYDNEY, SATURDAY, JULY 13, 1929.

No. 2.

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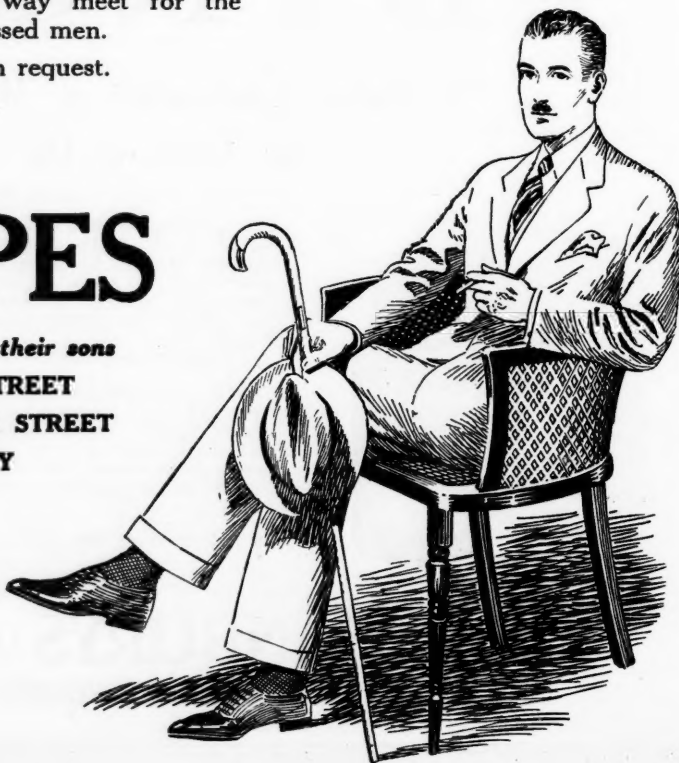
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THE APPLICATION OF DIATHERMY IN GYNÆCOLOGY.¹

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DIATHERMY, or "through heating" is one of the methods of practical application of the electric current to the human body. It is only of recent development, as it was introduced into Great Britain by Nagelschmidt in 1910 at Saint Bartholomew's Hospital. The heat is developed in the tissues themselves by the passage through them of a high frequency current which has been "stepped up" to more than one hundred thousand oscillations per second. Oscillations occurring above this rate do not produce shocks, stinging sensations, nor contractions of the muscles in the tissues through which they pass. The resistance of the tissues causes heat to be generated in the tissues themselves so that they are "heated through" or "diathermied." According to Joule's law, the amount of heat generated is proportional to (i) the resistance, (ii) the square of the current and (iii) the time. The second and third of these factors are directly under our control. Thus the amount of heat produced in the tissues can be regulated by the operator. By varying the size of the electrodes the heat can be directed through the tissues in larger masses, or concentrated in a small area. It is in this way that we obtain "medical" or "surgical" diathermy.

Medical diathermy aims at the gradual heating of large areas or masses of the body tissues. This is obtained by using large electrodes to give a mass effect.

In surgical diathermy the heat is concentrated in a small area by employing a small electrode—the active electrode—over the area to be treated, while a large electrode—the indifferent electrode—is placed evenly in contact with a large area of the body well removed from the site of operation. The heat generated in the neighbourhood of the active electrode produces coagulation of the proteins of the tissues for areas and depths which vary with the current, the time and the size of the electrode. Thus it produces a clean slough which separates by molecular demarcation.

The active electrode may be of any shape convenient of application, for example, discs of various sizes and shapes, buttons of different calibres, needles or blunt blades. A special type of electrode may be used to apply inside passages, for example, Corvus's hollow electrode for use in the urethra or cervix. It is made hollow to accommodate the bulb of a thermometer which enables the operator to gauge the heat accurately.

Uses of Surgical Diathermy.

Surgical diathermy may be used with advantage to treat (i) cervical erosions, (ii) caruncles, (iii) malignant conditions of the cervix, vagina or urethra, (iv) gonorrhœal infection of the urethra or cervix uteri, (v) salpingitis, (vi) joint affections, as chronic arthritis or osteoarthritis.

Erosions of the Cervix.

Erosions of the cervix uteri should be lightly touched with a small disc electrode and allowed to coagulate for two to three millimetres deep. The eroded area heals rapidly and is covered by normal mucosa which is smooth, soft and flexible.

Urethral Caruncles.

Caruncles of the urethra are painlessly and completely extirpated, together with the tissue around the base. It is effectual in preventing recurrence of these painful and troublesome tumours.

Malignant Disease.

In malignant conditions of cervix, vagina or urethra diathermy is most useful. We can look for several effects from its use, for example: (i) Arrest of hæmorrhage is complete and immediate. The patient gains in strength and in colour with the cessation of hæmorrhage. (ii) It destroys secondary pathogenic infection by cooking the invading bacteria with the tumour cells. (iii) It reduces cachexia by destroying the septic portions of the growth together with the toxins they produce. It reduces very greatly the secondary septic infection. (iv) It reduces glandular enlargements. The greater part of the glandular infection is due to pyogenic organisms which invade the necrotic tumour tissue, there to produce their toxins. As these are in great part destroyed, the infection of the glands diminishes. The glands themselves then become smaller. (v) It frees local inflammatory fixation by removing the cause of the inflammation. (vi) It arrests anæmia from hæmorrhage and toxæmia from the growth and its infection and allows the patient to build up. (vii) It gives a clean field for operating, but it causes some local fibrosis which renders operation more difficult by condensing the tissue planes. (viii) Thus by its aid many apparently inoperable growths can be made operable.

The following cases are quoted as illustrative of the claims put forward in the last paragraph.

CASE I: Mrs. C., *atatis* forty-four, was sent by Dr. J. Pirie, of Liverpool, in August, 1922. She had had irregular and increasing hæmorrhage *per vaginam* apart from the menses which were increasing in amount, for ten months. She was profoundly anæmic and pallid. The cervix was occupied by a fungating adeno-carcinoma which half filled the vagina and bled freely on examination. The whole growth was treated by diathermy for about twenty-five minutes which was the maximum her condition would allow. All hæmorrhage stopped at once and the fungating mass was much reduced in size. The diathermy was repeated at intervals of two weeks for a total of three applications. In six weeks the cervix was clean and occupied by a small ulcer with a clean base. A radical abdominal hysterectomy was then performed. In the course of the operation glands 5.0 by 2.5 centimetres (two by one inch) were dissected off both internal iliac veins. The patient made an uninterrupted recovery. She has reported at regular intervals since. When last seen, six

¹Read at a meeting of the Section of Obstetrics and Gynecology of the New South Wales Branch of the British Medical Association on November 21, 1928.

years after operation, she was quite well. She had gained 18.9 kilograms (three stone) in weight, while there was no sign of recurrence.

In this case diathermy arrested the hæmorrhage, cleaned up the fungating and infected tumour, enabled the patient to recover her colour and condition and rendered a successful operation possible.

CASE II: Mrs. A. was admitted to Royal Prince Alfred Hospital in 1924 under the care of Dr. H. R. G. Poate with a carcinoma of the cervix. Dr. Poate treated the growth by diathermy, using a needle, after which she was at his request transferred to my care for section. On opening the abdomen a couple of weeks later I found several red puckered spots on the pelvic peritoneum and on the pelvic colon from each of which radiated white, linear scars. These were thought to be secondary malignant nodules. Further, there were numerous big, hard and fixed glands along the internal and external iliac vessels. The condition was thought to be inoperable; the abdomen was closed and the patient returned to bed. In discussing the case a week later, Dr. Poate suggested that the red spots with the white radiating scars might be places where the diathermy needle had pierced the peritoneum, as he had seen similar marks and scars on the tonsils after diathermy. It was decided then to explore the abdomen again. This was done four weeks later. The cervix had by this time apparently healed. The spots had disappeared from the peritoneum; the glands were very much smaller, were soft and mobile. A radical abdominal hysterectomy was done with removal of the glands. When last heard of, last year, the patient was alive and well.

This case illustrates again the effect of diathermy in removing the effects of inflammations, in reducing glandular infection from this cause and in rendering an unfavourable case more amenable to operative treatment.

CASE III: Mrs. B., of Manly, *etatis* thirty-seven, with seven children, aged twelve years to two years, had hæmorrhage *per vaginam* for six months. An abdominal section was done by her own medical attendant in August, 1927. The uterus was found to be fixed, so the abdomen was closed. Seven weeks later her doctor referred her to me. The patient was very pale and anæmic. She was bleeding freely *per vaginam*, especially after examination. The cervix was occupied by a fungating mass 7.5 centimetres (three inches) across, which was apparently fixed firmly all round. Diathermy was applied freely and thoroughly twice. By the beginning of November, 1927, the uterus was freely mobile and the cervix was occupied by a small clean ulcer. A radical abdominal hysterectomy was then performed. The patient went home for Christmas well. She was seen again in August, 1928, when she was perfectly well and strong, but had a slight local recurrence in the vaginal vault. Eight two milligramme radium needles were embedded in this for fifty hours, a total of eight hundred milligramme hours. When last seen, a month ago, she was apparently quite well. The vaginal condition had subsided.

In this case again diathermy rendered an apparently inoperable tumour operable, for the fixation which must have been largely inflammatory, had disappeared after the second application of diathermy.

CASE IV was reported in THE MEDICAL JOURNAL OF AUSTRALIA of July 2, 1927, under the heading of "Removal of Bladder and Urethra in the Female for Malignant Disease." Here there was an epithelioma of the urethra which blocked the outlet from the bladder. The patient had been given up as inoperable. By the use of diathermy the local growth was cleaned up, enabling me to transplant the ureters into the bowel and at a later stage to remove the bladder and urethra. The patient has led a comfortable life till recently, when local recurrences have appeared

in the pubic bones. The urinary condition is quite satisfactory.

Several other cases can be quoted in support of the claims made on behalf of diathermy in the treatment of malignant disease. At a later date I hope to give a comparison between the relative values of radium and diathermy in the treatment of malignant disease and to discuss the indications for their use.

Gonorrhæal Conditions.

In gonorrhæal affections of the urethra and *cervix uteri* surgical diathermy has a definite sphere of usefulness. The fact that the gonococcus is a delicate organism and cannot, so it is stated, survive in a temperature of over 39.4° C. (103° F.), is the basis of the treatment. By means of Corvus's hollow electrode which contains a thermometer bulb, the surgeon is informed of the amount of heat that is being produced in the tissues in the immediate vicinity of the active electrode. A temperature of 41.1° C. (106° F.) can be comfortably borne by most patients in the urethra. They may complain of a feeling of warmth and discomfort and of a more or less urgent desire to micturate, but these soon pass off. The *cervix uteri* is less sensitive. Patients will tolerate a temperature of from 43.3° to 48.8° C. (110° to 120° F.) in the cervical canal without complaint, although over 46.1° C. (115° F.) some aching may be felt. These temperatures may be maintained for fifteen to thirty minutes at a sitting. If diathermy is used in the subacute stage, the discharge soon becomes watery and after several applications in favourable cases it stops altogether. The gonococci are killed for a distance of ten to fifteen millimetres from the lumen of the canal and no gonococci are found on microscopical examination after a month's treatment. But some patients seem to be more resistant to treatment than others and a surgeon should never be too optimistic in his claims when commencing treatment.

Salpingitis.

In salpingitis diathermy is used more in a medical than a surgical sense. The electrodes are large and are placed on the front and back of the pelvis to obtain a general heating through of the pelvic organs. I have on several occasions found pain relieved and effusions diminished. It may be used as an accessory to douching.

Chronic Arthritis.

Chronic arthritis, either inflammatory or gonococcal in origin, reacts favourably to local diathermy of the joint. It relieves pain, reduces local inflammation and promotes absorption. When combined with local treatment to the urethra and cervix, it gives excellent results in some cases of gonorrhæal arthritis. In the chronic arthritis of the sacro-iliac joints in elderly women, especially when obvious bony changes are revealed by X rays, I have found that diathermy applied over the joint for three to five applications has in several cases given complete relief.

THE ROLE OF THE GYNÆCOLOGIST.¹

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I do not propose to inflict upon you tonight anything which will give you much cause for thought, but rather some random ideas that have come into my head from time to time. You will have listened to the most excellent paper of Dr. Maguire on diathermy as applied to malignant disease of the *cervix uteri* and I am sure that you are all thinking hard of the constructive criticisms which you wish to make on that paper. Tonight for me should be an occasion for appreciation and joy, appreciation that my fellows a year ago called me to fill the honourable position of Chairman of this Section and joy that I have succeeded in, so to speak, getting out of the chair without being thrown out. Joking apart, though, I feel that the chairman of a meeting should always be a man who never forgets anything that he has read or heard, who is quick in the uptake to seize the other fellow's point of view and of a deft tongue and ready wit to sort out and weld together the arguments pro and con of the many very interesting subjects that are placed before him. None of you know how much I realize that I have fallen short of that ideal.

I have thought we might usefully consider some general questions in regard to gynæcology that possibly may be of use to some of our younger members; the older ones are so "set in their ways" by now that they are unlikely to make any changes.

Relationship to the Patient.

Consider first our relationship to our patients. The gynæcologist more than any other type of surgeon should be seized with a sense of the very great honour a woman is conferring upon him when she consults him for a gynæcological complaint. Women have been brought up through countless ages to regard their sex organs as a sort of hush-hush subject that must not be spoken of and hardly thought about and though it seems a fact that, since the war anyway, there does not seem to be so much reticence in human nature, still there are many patients, and when they adopt you they are very good and faithful patients, who appreciate greatly modesty in the manners and manner of their consultant.

In this connexion I think it is essential that every gynæcologist should have a trained attendant to whom, having taken her history, he can hand over the patient. The presence of a trained woman beside them gives them confidence and makes our work easier. It also makes it considerably safer—black-mail has been tried before today successfully on an unprotected practitioner. By the proper arrange-

ment of the covering sheet the patient can be made comfortable on the examination couch in such a way that she feels she is quite "covered up" while by a very slight derangement of the covering sheet of which the patient is quite unconscious, the vulva can be exposed to view. If the vulva be not viewed many an important condition may be easily missed. Especially necessary is it to remember that it is not only our better class patients who will appreciate attention to these details. Our work in public hospitals will rapidly convince us of how much more rapidly our patients will relax and allow a satisfactory pelvic examination if they feel that they are all satisfactorily "covered up."

Other countries other customs, which reminds me of a story recently recounted to me of a young German doctor now practising in America. He told me that on one occasion when he was surgical assistant to a successful practitioner, a Cesarean section was about to be performed. Just as his principal took up the knife to start the operation he looked round the theatre and said: "Where are them folks? Bring 'em right in!" Whereupon in trooped the husband, father and mother and two sisters of the patient who remained interested spectators of the operation. There would not apparently be very much shyness on the part either of that surgeon or his patients.

In no walk in medicine either is there more need for the man with a large capacity for entering into the lives of his patients and with a more infinite capacity for holding a still tongue. Many of the conditions we are called upon to deal with, are interwoven with the most intimate details of the woman's home life.

Many of the commonest conditions we are called upon to deal with, although they may be symptoms and signs of gynæcological conditions, have not in particular cases anything whatever to do with gynæcological conditions except in so far as the gynæcological condition itself is a result of general ill health and neurasthenia. There are for instance certain very common symptoms, such as: (i) Backache, (ii) pain in one or both sides, more commonly the left, shooting down the thigh, (iii) leucorrhœa, (iv) dysmenorrhœa.

Backache.

Sacral backache and coccydynia are forms of backache that may have a uterine or ovarian cause, but ordinary lumbar backache is more frequently due to muscle fatigue or weakness or obesity causing faulty posture and putting an undue strain upon the spinal muscles and ligaments, and this condition is seen typically in the neurasthenic woman with flabby muscles generally and especially of the spine and abdominal walls. This flabbiness allows an undoing of the normal curvatures of the spine and a proptosis of her abdominal contents, bringing the weight of her body forward of its centre of gravity. How many of us older men with a certain amount of *embonpoint* find after the stooping forward of a long afternoon's operating that we are suffering from an excruciating backache. So bad is

¹Read at a meeting of the Section of Obstetrics and Gynæcology of the New South Wales Branch of the British Medical Association on November 21, 1928.

my own that, had I the moral courage to wear them and if I could overcome my maiden modesty sufficiently to go to be fitted for them, I would wear corsets, not to improve my figure which is beyond hope, but to relieve me of backache.

A certain amount of bearing down pain, too, may be the result of neurasthenia, causing a flabbiness of the muscles of the pelvic floor and a shrinking of the normal fatty padding of the pelvis.

Backache, then, one of our common symptoms, is frequently not due to any condition which we can cure by operation, but is rather an expression of fatigue and is noticed more as a result of standing about or working indoors than when taking outdoor exercise.

Abdominal Pain.

Abdominal pains are common and the commonest is the pain in the left iliac fossa, so prone to be ascribed to disease of the ovary, when frequently it is to be explained by a loaded and tender colon associated with weakness and flabbiness of the abdominal walls and intestinal muscles.

These pains are differentiated from those of actual disease by the fact that they are habitual, are not associated with rise of temperature or pulse, do not make the patient take to bed and do not seem to cause any alteration in the patient's general health. While, therefore, we are perhaps justified in not attaching any very great pathological importance to them, we must remember that these pains, so common in neurasthenic women, are very real to them and it is our duty to use every cunning wile that we have in our armoury, to get rid of them for the patient, even though the medicine we use may be only sulphate of magnesia and peppermint. Your keen gynaecologist, especially if he be one who has not graduated through the stern avenue of general practice, will be very prone to find a gynaecological condition, needing in his opinion operation for the cure thereof, to account of these symptoms and signs. How many patients do we see in general hospital upon whom some sportsman has done a partial or complete oophorectomy for "oövaritis" or hæmorrhagic blood cyst of the ovary? It is not necessary to remind you that inflammation of the ovary in the absence of present or preceding salpingitis must be a very rare condition indeed. Also it should not be necessary to remind even our younger men that a *corpus luteum*, filled with blood, is not a pathological blood cyst of the ovary.

Leucorrhœa.

Leucorrhœa may be just as certainly a sign of a debilitated system as of a gynaecological condition and I feel strongly that in the absence of any obvious cervical lesion or gross lesion of the uterus, evidenced by menorrhagia or metrorrhagia, curettage as a treatment for leucorrhœa is foredoomed to failure.

Dysmenorrhœa.

Dysmenorrhœa, that curse of the gynaecologist, is frequently of nervous origin or at any rate the nervous influence in its causation is easily realized

if we remember that it frequently comes on only after the care-free girl has become the tired little mother. It is frequently brought on by illness or the overstrain of some uncongenial occupation, it is frequently varied in intensity from month to month and, lastly, it is frequently associated with other nervous disturbances such as migraine.

The sermon, then, that I am trying to preach, is that in gynaecological work we must not be satisfied with an examination of the breasts, abdomen and pelvis by palpation and inspection, but must regard our patients as the most delicate piece of mechanism with many elements that are prone to get out of joint besides the purely physical.

I do not know if any of you have read A. P. H. Herbert's "Misleading Cases"; if you have, you will remember the case of Fardell v. Potts. In this case it appeared that Mrs. Fardell, while navigating a launch on the River Thames, ran into and immersed Mr. Potts, causing him to catch cold. Having had a verdict given against her, Mrs. Fardell appealed. The whole case turned upon whether the appellant, Mrs. Fardell, had taken "reasonable care." Arguments went to show that "reasonable care" was such as a "reasonable man" would exhibit. The reasonable man, among other qualities, in a three-page judgement was held to be:

The sort of man who invariably looks where he is going ... who always investigates exhaustively the history and habits of any dog before administering a caress, who uses nothing except in moderation and who even while he flogs his child is meditating only upon the golden rule. A man, in short, devoid of any human weakness, with not one saving vice, sans prejudice, procrastination, ill nature, avarice, absence of mind, as careful for his own safety as he is for that of others, an excellent but odious character which stands like a monument in our courts of justice.

On the other hand it was argued that in all the mass of authorities there is no single mention of a "reasonable woman" and that legally, therefore, there is no such person as a "reasonable woman." The learned judge went on to say that:

The view that there exists a class of beings illogical, impulsive, careless, irresponsible, extravagant, prejudiced and vain, free for the most part from those worthy and repellent excellencies which distinguish the "reasonable man," and devoted to the irrational acts of pleasure and attraction, is one which should be as welcome and as well accepted in our courts as it is in our drawing rooms. I find, therefore, that at common law a "reasonable woman" does not exist.

Far removed, then, from the picture of a reasonable man, is woman, our patient. Does she use tobacco, cards, dancing in moderation? Very frequently she does not. Does she look before she leaps into marriage? Too often, alas, she does not and marries the wrong man. Does she procrastinate in coming to see about her illness until she is frequently a physical and nervous wreck? She does. Does she wear correct walking shoes and clothes; does she look after the regularity of her bowels? She does not. In short, when we think of the list of things she does not do, we wonder that there are any healthy ones among them. It is probably her darned cussedness that makes her so fascinating. It is very obvious, then, that in gynaecology we have to

deal with a class of patient in regard to whom perhaps more than in any other class of surgery correct history taking becomes of paramount importance. You must get from the patient very exactly indeed what are her complaints, that is, what are the things she is complaining about, and the removal of which will render her in her own opinion a healthy woman, and that history should be read the last thing before any operation is performed. Having decided after examination that your patient has a pathological gynaecological entity, ask yourself the question: "In what way does the condition I have found, account for the signs and symptoms?" If you don't know, don't operate until you do find out. In 1884 Clifford Allbutt in the Goulstonian Lectures satirized in the following words the effect upon the patient of the meddlesome gynaecologist.

She is entangled in the net of the gynaecologist, who finds her uterus, like her nose, is a little on one side, or again, like that organ, is running a little, or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year except during the long vacation when the gynaecologist is grouse shooting, or salmon catching, or leading the fashion in the upper Engadine. Her mind thus fastened to a more or less nasty mystery becomes newly apprehensive and physically introspective, and the morbid chains are more strongly riveted than ever. Arraign the uterus and you fix in the woman the arrow of hypochondria, it may be for life.

Gynaecologists in Relation to General Surgery.

Any gynaecologist, before he ventures to open an abdomen, should be *au fait* with the technique of abdominal surgery as a whole. Mistakes are made in diagnosis easily and often enough and no patient should be subjected either to the risk of an operation on stomach, gall bladder or intestine by an inexperienced surgeon, nor should she be subjected to the double strain of two operations, one a futile one of her gynaecologist, another by a suitable general surgeon.

Every gynaecologist should in my opinion spend every opportunity possible to him in watching the technique of abdominal operations, performed by general surgeons. While I do not subscribe to the idea that we should consider ourselves as abdominal surgeons and rush into performing gastro-enterostomy, still we are used to dealing with surgery in extremely difficult and awkward situations and there is no reason why we should find abdominal surgery difficult. It is an unfortunate fact that, whereas we are not supposed to tread upon the sacred ground of the urologist and general surgeon, those specialists do not hesitate to encroach upon our field.

While I think it would be better for those patients if all operations upon the female genital organs were left to the gynaecologists, there are three types of operation in particular that I do not think should be attempted by any but the properly trained gynaecologist. I refer to panhysterectomy for malignant disease, including the abdomino-perineal resection of uterus, vagina and rectum; the repair of recto-vaginal and vesico-vaginal fistulae and the operative cure of relaxed pelvic floor.

In the first two operations time is a matter of very great importance to the patient. In malignant conditions the debilitating effect of the disease is frequently far in advance of the outward and visible evidence of its presence and every five minutes saved by skill and rapidity in the operation is of vast importance.

There is nothing intrinsically difficult, of course, in fistula operations, except the way they have of being tucked away up at the end of a narrow funnel difficult of access even to a man used by much experience to operating within the confined space of the vagina.

With regard to the third type of operations, it is pathetic to see the misguided efforts of some of our well known general surgeons in doing repair work. They appear to think that all that is necessary for a repair of the pelvic floor is to narrow the outlet of the vaginal canal without taking any heed to the herniating floor of Douglas's pouch and the accompanying overstretching of what Victor Bonney calls the pelvic shelf.

The Gynaecologist as a Consultant.

Most of our work in consultation lies in confirming the quite correct diagnoses of other practitioners upon patients who wish to be cared for by us in public hospitals. Not for us is the three hundred mile rush into the country to decide that some poor chap with influenzal pneumonia or a ruptured appendix with general peritonitis will die. Our only chance in that line lies in the ruptured ectopic pregnancy or twisted ovarian cyst and that unfortunately, so well do we teach our students, is always "pinched" by the local practitioner.

Where I think we can be of most use to our fellows, is in advising as to the best form of treatment and best time for active interference in inflammatory conditions of the pelvis and in obstetrics. It has been said by Sir George Newland in "Some Notes on Medical Education in England" that it is significant that:

The obstetrician and gynaecologist is the great example of the unity of medicine and surgery in actual practice. Here is the full integration.

Gynaecology and Obstetrics.

Gynaecology cannot and should not be divorced from obstetrics, because obstetrics covers the normal and abnormal processes of reproduction and gynaecology the diseases and disorders of the reproductive system and their appropriate treatment. From the point of view of preventive medicine a knowledge of midwifery is essential to the proper practice of gynaecology and to make gynaecology a part of general surgery as has been advocated in America and even in our own university here, is to separate the curative from the preventive side.

Midwifery is a branch of preventive medicine because pregnancy, labour and the puerperium are physiological, not pathological states. The fact that pathological conditions arise during these states is due to lack of knowledge of their origin or to failure on the part of the obstetrician to prevent

them and it is chiefly in the treatment of these pathological conditions which come to lie chiefly under three headings: (i) infections due chiefly to sepsis after abortions and labour, and to gonorrhoea, (ii) birth injuries, (iii) new growths, that the work of the gynaecologist lies.

I should like to refer here to the howl that is constantly arising in the lay press, chiefly from the pen of a medical correspondent, on the subject of maternal mortality and the faulty teaching of the medical student.

It is true that maternal mortality is much too high and that the cause of the mortality is probably the same old streptococcus, but I do not believe that the mode of entry is the same. Whereas in pre-Listerian times it was easy enough to understand how an *accoucheur* working with bare hands on septic patients very easily conveyed the infection to other patients, it is not easy to understand how the modern practitioner, trained in schools of medicine where he sees daily in operations an aseptic technique second to none in the world, immediately upon graduation forgets all that he has learned and becomes a dirty fingered carrier of infection.

No, I think the cause is elsewhere. I am satisfied that in the vast majority of patients who become infected, the streptococcus or gonococcus is firmly planted in the cervical glands and tissues awaiting the opportunity afforded by the normal contusion and injury of childbirth. That that implantation of organisms in the cervix is a very real thing can be proved by anyone who cares to make serial sections of cervixes amputated for hypertrophy and similar conditions; streptococci will be found at all depths in the tissue.

As to the manner in which the modern cervix becomes more likely to be implanted with micro-organisms, I do not think that we need look further than the stress of modern social conditions with its enormous increase in venereal disease, its ever-increasing tendency to the procuring of criminal abortions, its intolerance of large families and the increasing use of contraceptives such as the sponge, the cervical cap and that abomination of Marie Stopes, the gold spring pessary.

In a paper on puerperal sepsis and sensitiveness to streptococcal toxins in the June 9, 1928, number of *The British Medical Journal*, H. Burt White gives some very interesting analyses of one hundred cases at Saint Bartholomew's Hospital and The City of London Maternity Hospital. The investigation was primarily to test the reaction of pregnant women to the scarlatinal toxin, their labours and puerperia were afterwards observed. The results were rather astounding. Of one hundred patients twenty-seven gave a reaction and seventy-three gave no reaction. Of the twenty-seven patients eight experienced morbid puerperia. In two cases only were swabbings of the cervix taken, but they both gave cultures of *Streptococcus pyogenes* in pure culture. Now six of the eight patients had normal labours without interference and the other two had *post partum* hæmorrhage.

Of the seventy-three patients only two had slight puerperal reactions and in neither could streptococci be found in either cervix or blood. Much more interesting is it to note the condition of thirteen of these patients. One had *post partum* hæmorrhage after manual removal of the placenta; the puerperium was normal. The second had *post partum* hæmorrhage after manual removal of the placenta, slight rise of temperature on the third, fourth and fifth days and offensive lochia. Cervical culture yielded *Streptococcus salivarius* and staphylococci. The third had Cæsarean section and a normal puerperium. The fourth had Cæsarean section and a normal puerperium. The fifth had a severe tear of the perineum and a normal puerperium. The sixth had a severe tear of the perineum and a normal puerperium. The seventh had a normal labour and a slight rise in temperature in the puerperium. Streptococci were not found in the cervix. The eighth had severe pyelitis of pregnancy, secondary anæmia with red blood corpuscles numbering only 2,400,000, *placenta prævia*, transverse lie. Membranes were ruptured artificially and internal version was performed. The temperature reached 37.8° C. (100° F.) on the fifth and seventh days. No streptococci were found in the cervix. The ninth had concealed and external *ante partum* hæmorrhage. The membranes were ruptured artificially and the vagina was plugged. The puerperium was normal. The tenth was a *multipara* with a contracted pelvis and a transverse lie. External version was performed. Difficult delivery with forceps was carried out after the patient had been six hours in the second stage. The puerperium was normal. The eleventh patient had severe *post partum* hæmorrhage. An adherent placenta was removed manually. The puerperium was normal. Cervical culture yielded *Streptococcus salivarius*, *Bacillus coli communis* and *Staphylococcus albus*. The twelfth had *ante partum* eclampsia, a fœtus in the persistent right occipito-posterior position delivered in that position by forceps. Puerperium was normal until the twelfth day when the patient developed pyelitis and *Bacillus coli communis* septicæmia. No streptococci were found in blood or cervix. The thirteenth had severe *post partum* hæmorrhage, manual removal of placenta and a normal puerperium. All the other patients were absolutely normal.

I think that the germ of a great truth lies in White's paper, in other words, that it is in the intrinsic susceptibility of the patient to puerperal fever and in the pre-labour presence of streptococci in the cervical canal and glands that the incidence of puerperal fever is due and emphatically not to the introduction of streptococci on the finger of a sterilized glove through a sterile vagina, the entrance to which has been carefully swabbed.

I am fully seized with the total inadequacy of this paper of mine as a thoughtful contribution to gynaecological knowledge. For that inadequacy I crave your indulgence.

RHEUMATOID ARTHRITIS.

By HORACE PERN, M.R.C.S. (England), L.R.C.P. (London),
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In this paper on rheumatoid arthritis I shall attempt to show that all rheumatic changes have a common basis which is bacterial in origin, that the rheumatic changes in themselves do not constitute the disease, but are the effects produced by the action of certain physiological and mechanical laws upon the tissues, joints or other structures rendered pathological by disease, that by observing certain principles these changes can be prevented; if they occur, even after a long lapse of time, they can be remedied.

It is an accepted fact that the results of treatment of rheumatoid arthritis are unsatisfactory. Is this due to the uncertainty of the whole subject and therefore to lack of continuity of treatment?

If a particular patient has an acute attack and reacts favourably to salicylates, it is termed acute rheumatism; if the attack is chronic, it is called chronic rheumatism; if rheumatoid changes occur, it is designated rheumatoid arthritis. If fascia is involved, it is spoken of as muscular rheumatism or fibrositis; if brain cells are affected, it is called chorea; if nerve trunks are attacked, it is said to be neuritis; if bony changes arise, the condition is osteo-arthritis. Are they all different diseases? If so it is quite impossible to tell where one ends and the other commences. I think that all are practically agreed that osteo-arthritis has a distinct pathogenesis to rheumatoid arthritis. It is trophic in origin and the disease commences in the bone cells.

To understand the disease of a structure or organ, we must know the anatomy and physiology of the structure or organ in health, what the cause is which produces the disease, and which factors make the structure or organ vulnerable.

Then there are the pathological changes which take place. Why do they take place?

It is further necessary to understand the physiological changes which take place in the structure or organ itself and remotely in all other tissues of the body and to discover the pathology of repair and the laws that govern it. Our aim in treatment is, if possible, to get the structure or organ back again to its normal anatomical and physiological condition.

Anatomy of a Joint.

Each joint is composed of ligaments, capsule, synovial membrane and ends of the bones covered with cartilage cells. Certain joints, for example the knee joint, have their own special cartilage. The cartilage cells are highly specialized to bear pressure. They probably obtain their nourishment from the synovial fluid as they have no blood vessels.

Physiology of a Joint.

Each joint acts mechanically. The joints of the upper extremity are used to facilitate movements of the limbs. The spine bears the weight, gives

stability and allows of certain movement. The lower extremity has to bear weight, gives stability and is part of the mechanism for propulsion. The length and strength of the ligaments, the laxity and strength of the capsule and the shape of the ends of the bones depend on the mechanical use to which the joint is put. Practically all joints are supported by muscles or tendons. The proper physiological working of a joint depends on four factors. In the first place each of its anatomical structures must be intact and perform its own individual function. In the second place the use of the joint must be mechanically correct. In the third place if a structure fails to perform its function or the joint be used in a mechanically incorrect manner, whether as a result of disease or trauma, pathological changes will be set up in a joint. Lastly, joints, like all living tissue, for the maintenance of their health must be put to their proper functional use.

The Direct Cause of Infective Arthritis.

It has been almost universally accepted that infective arthritis is bacterial in origin. I shall not attempt to go into the bacteriology, except to say that our present knowledge is indefinite. It is also universally accepted that the mode of entry is the absorption from a septic focus, for example teeth, tonsils, sinuses and gall bladder.

We know that our skins and mucous membranes are swarming with bacteria and from the cradle to the grave there is a perpetual battle going on between them and our defensive forces. We also know that septic foci are extremely common. We know to a certain extent how immunity is produced, but we do not know why some people are subject to bacterial invasion and others subjected to a similar environment are not. It must be some condition of the soil on which they are sown.

Indirect Causes.

As the indirect causes are most important to treatment I shall discuss this subject fully.

Hurst⁽¹⁾ in his most interesting lecture on the constitutional factor of disease deals fully with it. There can be no doubt the Maker of the Universe made all life on one big scheme and only by learning that scheme and obeying it can we succeed. All horticulturists know the growth of a plant depends on the strain of the seed, the soil in which it is sown, and the nourishment it obtains. The constitutional factor of disease can be observed by watching the effect of woolly aphis on apple trees.

The following facts can be observed. It attacks only certain varieties. Of these varieties some are more vulnerable to its attack than others. The whole constitution of the tree is altered by the aphis; it lacks vigour, depending on the virulence of attack; some it kills. The actual branches attacked lack vigour, their ends are stunted or dead. The locally infected parts are nodular.

The effect of treatment depends on the variety. The most vulnerable varieties are more difficult to clean and keep down than others. The response and growth depend on the virulence of the attack;

some trees never seem to regain their vigour. The nodules if kept free from aphids, disappear and the bark again becomes normal.

The deductions are that the susceptibility to infection of woolly aphids on apple trees is entirely due to the strain. Some strains are susceptible, some highly susceptible, others are immune.

This means that susceptibility is due to an inborn defect in the strain of the host.

The response to treatment is governed by the same factor. The great lesson to be learned is that the power of repair is inherent in all living tissues.

I have called attention to these facts which all can observe, to try to show the indirect cause of infective arthritis is an inborn defect, the natural lack of resistance to bacteria. Horticulturists and breeders of animals know that defects of strain in plants and animals can be worked out by Mendel's law.

There can be no doubt there is an alteration in the chemical composition of the blood. It is well known that rheumatic patients are highly susceptible to the actions of the acids contained in the following: vinegar, acid wines, rhubarb, green gooseberries, strawberries, acid plums, tomatoes. Sir James Barr contended for years that they have a defect in the calcium metabolism.

Pathological Changes of Arthritis.

I wish to lay stress on the pathological changes which take place and to establish why they take place. My contention is that they take place because the bacilli or their toxins produce inflammation. It is the inflammation which produces arthritis, that can be set up by entirely different causes, which I will enumerate.

Causes of Arthritis.

Sir Frederick Taylor⁽²⁾ in his text book, "Practice of Medicine," states that arthritis occurs as a complication or sequela in the following diseases: typhus fever, scarlet fever, enteric fever, small pox, dengue, influenza, pneumonia, septicæmia, pyæmia, gonorrhœa, dysentery, congenital and acquired syphilis, pulmonary tuberculosis, erysipelas, osteoarthropathy, as the result of the deposit of urate of soda in gout, as a nerve disease in *locomotor ataxia* and syringo-myelia, as a blood disease in hæmophilia and as the result of trauma.

I shall discuss the pathology of inflammation later, but for the present shall content myself with an account of the changes in a rheumatoid joint.

A layer of granulation tissue is formed⁽³⁾ on the synovial membrane, which spreads over the cartilage of the articular surfaces and by adhering to the granulations of the opposite side, gradually obliterates the joint cavity. The granulations extend into the underlying cartilage and tend to destroy it. The bone beneath resists for a time, but eventually the marrow becomes converted into an œdematous fibrous tissue with many osteoblasts. These invade the cartilage from below causing ossification. It also causes condensation of bone and much new bone formation.

This is the pathology of an irritant which has set up arthritis, going on to rheumatoid changes, either due to the continuation of the irritant or to frequently repeated irritation from other causes.

The two causes are distinct. The original irritant works out its own individual life history, whether it be bacterial, trophic, traumatic or chemical. The pathological changes vary accordingly. As an example of bacterial irritation, streptococci may be mentioned. They tend to disorganize the joint rapidly. Tubercle bacilli destroy the joint and the ends of bones. They both do it by the continuation of the original irritant.

In regard to the traumatic form, as soon as the irritant ceases, repair commences. If rheumatoid changes occur afterwards, they are not due to the original trauma, but to often repeated irritation the result of some anatomical or mechanical defect caused by the original injury.

The bacilli which set up arthritis, also have an affinity for fibrous tissue. They set up inflammation in fascial ends of muscles, tendons, sheaths, ligaments and supporting nerve trunks and fatty tissues.

The reasons why pathological changes take place may be summarized as follows. The original cause of the inflammation may continue to act. There may be trauma of highly vascular granulation tissue and of already damaged cells. This may be produced as a result of the ordinary use of the joint or even as a result of the anatomically incorrect use of the joint, due to some structure not performing its function. The mechanically incorrect use of the joint may be due either to the physiological failure of one of the structures or to pain.

Joints and limbs assume certain positions when continual pressure of the synovial fluid gradually forces the joint to assume the position in which there is most room for it, when gravity, that is the weight of the limb, determines the posture, when pressure is applied at intervals in the daily use of the limb and when pressure is produced by spasm of muscles, the stronger group overcomes the weaker.

Fibrositis.

Structures are attacked at their weakest part where they are most liable to injury, where the blood supply is poorest and where they are exposed to atmospheric conditions.

The physiological changes which take place in joints and limbs lead to loss of function. If any part of a limb is not used, it loses its function rapidly and if the period of disuse is protracted, it will need reeducation.

The remote physiological changes in the body are well brought out in the case of a female patient. There was general muscular wasting in all affected limbs and definite cardio-vascular changes with quickened pulse, high susceptibility to atmospheric changes, cold extremities and toneless and smooth skin. The patients have the mentality of an invalid. They lack power of initiative and are extremely sorry for themselves.

I shall now deal with the pathology of repair and the laws which govern it. Injuries occur to the tissues from a variety of causes,⁽³⁾ some mechanical, some physical and some chemical, or as a result of the invasion by parasites. These injuries which generally imply the destruction to some of the tissue, call into activity several kinds of reactions or responses, which have been elaborated through ages of natural selection. The reactions are passed on to successive generations by those whom they have helped to survive. They are of several types, inflammation, fever, immunity, production and repair.

Inflammation is a complicated vascular and cellular response which follows immediately upon the injury and is brought about by the attraction of much blood to the spot and by a pouring out of its elements upon the injured tissues to prevent the extension of the injury, to hold in check the injurious agent or even to destroy it. Through the agency of some of the deposited cells and other more purely mechanical ways, the *débris* of injured or dead tissue is cleared away and the tissues are prepared for the process of repair.

The production of immunity is a response to certain types of injury which quietly and slowly form substances, specifically adapted to annul and prevent the inroads of that particular injurious agent.

Repair is the replacement of destroyed tissue by newly formed tissue. This may take place in an orderly manner or an excessive amount of fibrous tissue may be produced, interfering with the function of the organ. Usually this is because the injurious agent persists and repeatedly frustrates healing by injuring the repairing tissues, so that layer after layer of this new tissue is laid down and consolidated into a firm scar. In time a remodelling process takes place, which involves obliteration of blood vessels in one part, their formation in another, rarefaction and fretting away at one part, strengthening in another.

The two processes are distinct. Nature's aim in the acute stage is rest, in the remodelling period, activity to get back function.

Treatment.

In planning a line of treatment for any bacillary disease, we have to construct our plan on the life history of that strain of bacillus, the symptoms it produces and the best way of combating them. For example, the tubercle bacillus sets up arthritis and disorganizes the joints and the ends of the bones. Therefore all our efforts are to prevent disorganization and produce true ankylosis. The bacilli which produce rheumatic arthritis, set up fibrositis in structures round the joint, synovitis with adhesions, destruction of cartilage and bony changes. Therefore our aim is to prevent these changes occurring, not to prevent complete disorganization of the joint. In the three different stages, acute, subacute and rheumatoid, the treatment of each stage has its own objective.

I think I am correct in saying that the usual treatment consists of an attempt to find out the source of the disease and if possible to remove it. The method employed comprises a course of vaccines, drug treatment and the application of some form of heat. As far as it goes nobody can question the soundness of this method, yet the results are recognized as bad, some as extremely bad. I have written this paper with a definite object, to try to show that they are bad and must remain bad, unless the treatment includes a carefully thought out and continuous joint treatment from the commencement to complete cure. To leave the joints to cure themselves is to break every pathological and physiological law.

I shall not discuss septic foci, as I have already done so, except to plead for teeth. If they are diseased, they must be removed, but why remove teeth that can be stopped with safety and sound teeth.

Vaccines I have not found helpful.

In the acute state the treatment is rest. This involves complete rest in bed, rest of mind by alleviating pain, by sedatives if necessary. Wool pressure acts well. Plenty of sleep must be provided and hypnotics may be given if required. Rest must be supplied to the organs of digestion and to the excretory organs by giving a diet sufficient for requirements and no more. Elimination of waste products is attained by the drinking of plenty of water and by the free but not violent action of the bowels. In regard to drug treatment, I conclude that salicylates are universally given.

For the treatment of joints rest is essential. Wool pressure meets all requirements. It acts as a splint, relieves pain and prevents trauma of inflamed cells. By its elastic pressure it limits the exudation of lymph and accelerates its absorption. It keeps joints at a uniform temperature.

For local application an ordinary pound packet of absorbent wool is wound around the joint, extending well above and well below it. If the wool is thick three complete turns should be taken, if thin four. Take a bandage with a good deal of substance and apply so as to pull the limb into a position of physiological rest. If needed, put on another bandage with the same pull. Bandage firmly; it is quite safe if plenty of wool is used and the bandage does not touch the skin. This is most important. When bandaging the shoulder, place a large pad of wool in the axilla and pull the arm into an abducted position. For the hip joint use plenty of wool. Support the limb on a pillow and, if necessary, use sand bags; the dressing should be reapplied when needed and discontinued when the joint can be used in all directions without pain.

Acute fibrositis and neuritis are treated on exactly the same lines. The diet need not be so rigid. If wool pressure cannot be used, I find a mixture of camphor, chloral hydrate and menthol rubbed up in a mortar and then painted on very useful.

Subacute Stage.

The treatment of subacute arthritis with or without rheumatoid changes is as follows: Rest in bed, as much as possible reclining out of doors, is continued. The diet should be increased as soon as possible to an abundant full diet, but the acids referred to above must be omitted. The drug treatment I give to an adult comprises one gramme (fifteen grains) each of sodium salicylate and potassium bicarbonate at first once every four hours and later as the symptoms improve, three times a day. I then add 0.18 mil (three minims) of *liquor arsenicalis*. When the acute symptoms have subsided, I prescribe 3.6 mils (one drachm) of glycerol hypophosphites and 1.8 mil (half a drachm) each of Easton's syrup and the compound syrup iron phosphate, malt and hypophosphites during hot months, the same with cod liver oil during cold months. Wool pressure is continued as long as is needed. If a joint is not progressing satisfactorily, it should be put up in splints in the position of election. Movement should be commenced as soon as the symptoms warrant it. The movement must be the patient's own. Sometimes I assist these movements, but on no account do I use force. Full movements must be obtained and reeducation is undertaken if needed. Correct deportment must be taught and walking if necessary. In my lecture on joints⁽⁴⁾ I gave the details of the treatment of one patient. The lady has been quite well ever since; her only disability is a slight creaking in one knee which causes her no inconvenience.

This stage frequently taxes all our knowledge and wisdom. The joints should be moved as soon as possible. The decision to commence movement must depend on our knowledge, even then it must be experimental. The points to decide are whether the limitations are due to an affection of the structures immediately surrounding the joints or to arthritis. The physical signs of the former will be: no increase of synovial fluid, the affected structures will be thickened and tender on pressure, but this tenderness may be quite local. There may be limitation of movement in one or two directions, but not all. To the sense of touch the joint surfaces feel quite smooth and if pressed together gently will probably produce no pain. The movements allowed within the limited range may be free from pain.

Of the latter (arthritis) the synovial fluid may be increased; the structures immediately surrounding the joints are probably thickened and tender; there may be limitation of movement in all directions; to the sense of touch the joint surfaces feel rough. If the synovial membrane is chiefly affected, a creaking sensation is felt, if cartilage, a coarse grating sensation. Gently pressing together of the bone surfaces will produce pain. Hugh Owen Thomas's test should be applied. It is the inability of the patient after the removal of the splint to poise the limb in exactly the same position in which it had been fixed on the splint.

By observing these physical signs, it should be theoretically easy to diagnose the actual condition

and thus to guide the treatment. In practice it is often extremely difficult to decide when to commence movement. Personally my aim is to get movement as soon as possible and if in doubt, I trust almost entirely to my sense of touch and then experiment. Sir Robert Jones's laws should be most religiously adhere to. Failure to do so must lead to disaster.

They are:⁽⁵⁾ If pain occurs after manipulation and is of short duration, treatment must be continued. If pain persists for lengthy periods after manipulation, treatment must be stopped; if the range of movement increases, treatment must be continued; if the range of movement decreases, even in absence of pain, treatment must be stopped; the duration of pain when tissues are relaxed, not its intensity, is the guide; in breaking down adhesions and subsequent manipulations, the joint should be put through all its movements. The oft repeated pump handle movements applied at one sitting are never useful and often start inflammatory symptoms. Unlimited voluntary movements are quite safe and should be encouraged.

The causes of fibrositis and neuritis are treated on the same principles. The following case history of a patient with subacute arthritis illustrates many points, chiefly the constitutional ones.

L.K., twelve years of age, a small fragile, delicate looking boy, consulted me on September 14, 1927. Between August, 1926, and August, 1927, he developed pains and swelling in both elbows, both wrists, fingers, both hips, both knees and ankles, the spine, chiefly the lumbar and cervical regions. He could just crawl with the aid of a stick.

His right leg was abducted and everted. There was limitation of movement in all directions of the right hip to 25°, of the left knee to 30°, of the whole spine and neck to 50°. There was thickening of the tissues of the left knee, which was tender on pressure. Both ankles and both feet were very flat. Both wrists and hands were in the ulnar position. There was increase of the synovial fluid in both wrists. No other physical signs were noted except that the gums and upper left molar teeth were a little unhealthy; this soon cleared up under treatment. He had been treated with drugs and home massage. I admitted him into hospital on September 17 and decided to move all his joints.

I shall attempt to give my reasons for doing so and for continuing to do so.

He had signs of arthritis in the right hip, the left knee, both wrists and the spine chiefly in the cervical and lumbar regions. A large amount of thickening was present around both ankles and almost certainly arthritic changes as well.

The reasons for using movement were the duration of the signs, the necessity for obtaining full movement as soon as possible, the fact that the cartilaginous ends of the bones in all the joints felt smooth to touch and the fact that the pain on movement was not severe.

The aims of treatment were to restore the function of the joints, to assist repair and at the same time to prevent adhesions already formed from becoming dense.

Each day each joint was very gently moved through its full range of movement in all directions that it was capable of performing. Then each day the range was increased as much as I thought wise. Afterwards I instructed the boy to do the same movement, always supporting the limb while the movement was being performed. I pulled up both feet in good position with strapping and a bandage and applied wool pressure to both wrists. I taught correct walking and deportment.

The remainder of the day he spent reclining in bed on the veranda. His diet throughout was abundant. His temperature chart showed that the movements immediately set up a definite response.

I do not know if he had pyrexia before his admission. On arrival his temperature was normal. I continued treatment in spite of fever. His general condition remained good, his appetite good and his tongue clean. I followed Sir Robert Jones's laws. On all points he improved; therefore I decided that the treatment must be correct.

When he was discharged on October 21, the mobility of all his joints was full, except a slight limitation of the cervical vertebrae. Both feet were in a perfect position. He walked quite well. All fluid had disappeared from the wrists and a good deal of the thickening had disappeared.

I gave his mother full directions. All his joints were to be moved through one whole range of movements once a day and the limb was to be supported while the movement was being carried out, but on no condition whatever was force to be used. The boy was allowed to walk from his bed to the verandah where he could spend the whole day reclining. The diet was to be abundant. I prescribed syrup of triple phosphates.

On his first visit about three weeks afterwards his general condition was just the same. There was no increase of weight. His temperature throughout had been normal. His walking was fairly good; the mobility of his hip and cervical spine had not been maintained. There was limitation of hip movement to 15° and of the movement of the cervical vertebrae to 25°.

I have seen him from time to time and continued the same treatment, except that I have given him cod liver oil, malt and hypophosphites during the winter months. In the last three months I have allowed greater freedom in movement and generally getting about.

On August 6, 1928, his general condition was much improved. The boy looked well, had grown, his weight had increased and he looked more robust. He walked well, but needed training. Both hips, the right wrist and the whole spine had a little limitation of movement. All the other joints had returned almost to normal shape.

The patient was discharged on October 12, 1928, after one month's treatment. His general condition was splendid. His weight was thirty-three kilograms (five stone and a half of a pound), an increase during the year of four kilograms. His temperature throughout the period when he was under treatment had been normal. He had for all practical purposes complete mobility. His neck was, perhaps, not quite full. I am teaching him to run. The prognosis is good.

If I may be allowed to digress, I should like to mention briefly a case of osteo-arthritis of both hip joints, as the two cases have much in common and are instructive.

M.B., aged fourteen years, had a history of an affection of his right hip for ten years and of his left hip for six years. The skiagrams revealed gross deformity of the head of the right bone and impaired growth of the shaft. There was a great deal of osteitis of the left femur and ilium. The movement of the right hip was restricted to a few degrees; it was definitely impaired in the left hip.

Both boys reacted to treatment in the same way. Both obtained increased mobility. Both had had fever, L.K. had high fever, but it soon dropped when the treatment was discontinued. In M.B. the fever remained on an average at 37.8° C. (100° F.) at night time toward the end of the course of treatment. The fever was one of the main reasons why I discontinued treatment. The fever persisted intermittently for four months.

It was exceedingly difficult to decide exactly how much movement it was safe to give each of the boys. Both patients were ordered to continue their exercises after discharge. The parents were given

directions, so that they might know whether they should continue the exercises or not. Rest and an abundant diet were ordered for both boys.

I have described L.K.'s present condition. The last time I saw M.B. was about three weeks ago. The mobility restored to him was maintained and possibly increased. Two days ago his father reported that the boy was in splendid condition; his temperature was normal and his walking had improved. I have given the same advice in regard to this boy as I gave in regard to L.K., to allow increasing freedom as the improvement in mobility progresses. I wish to put him through another course of treatment after six or nine months, when I expect that I shall be in a position to move all the joints without harm. I anticipate that I shall obtain full mobility of the left hip, almost full mobility of the right hip and correct walking.

Chronic Stage.

In the acute stage the treatment consists of complete rest to limit the extent of the injury and to assist repair. In the subacute stage rest is continued until repair has reached a certain stage. From then onwards the process of repair is accelerated by measures aiming at a gradual restoration of function. Immunity is gradually built up by means of an abundance of food, by the giving of drugs and to some extent by the graduated movement of the joints. In the case of L.K. it is certain that movements of his joints liberated either bacilli or toxins.

The treatment of the chronic stage comprises stimulation. It is both general and local. The general treatment takes the form of a continued building up of the immunity of the body as in the subacute stage. The local treatment takes the form of stimulation by every means in our power. The only objective is the permanent restoration of the function of the joint. All modes of stimulation assist, but unless the function of the joint is permanently restored, they cannot succeed.

Of the stimulants available different forms of heat, light, baths, massage and so forth assist the remodelling process by increasing blood supply and repairing drainage. I conclude that some of these measures, by their special selective action, have the power of absorbing fibrous tissue. If the joint is able to function properly, the result will be permanent; if not, after treatment ceases the original condition will return. Very efficient stimulation can be obtained with hot and cold water. Take a bucket of each and a sponge for each. Sponge the limb or joint alternatively for half a minute at a time, altogether for ten minutes. Dry carefully and massage.

The simpler movements of massage can be easily taught. They are: (i) a deep firm rubbing movement towards the body, kneading with the whole thumb, firmly gripping with the flats of the fingers and at the same time lifting the tissues, (ii) lifting structures between the tips of the fingers and thumb by a limited rotary movement towards the body:

(iii) finish with the first movement, gradually becoming lighter until the final movement is quite a light stroke.

The function of the joint must be now obtained. For the sake of simplicity I shall divide cases into two groups: chronic fibrositis and chronic arthritis in persons who by their own power or with slight assistance are able to obtain full mobility of their joints, and chronic arthritis in persons who owing to rheumatoid changes and perhaps permanent deformity are quite unable to move their joints. The treatment of the first group is quite simple and highly satisfactory. The full movements of affected joint or joints must be demonstrated. If necessary a steady firm pressure may be used to give full mobility. The shoulder movement is complicated: Stand to attention; do circular movement, keeping the arm close to the side, especially when the arm passes backwards by the side of the head; carry out the same movement, passing the arm across the front of the chest and keeping close to it; raise the arm straight above the head to the full extent, drop to the abducted position and allow it to fall until the hand touches the leg; raise the arm again to right angles and rotate the rigid arm; from the same position carry the arm back to the back of the head and flex the elbow, touch the opposite shoulder with the hand and then recover. Commence with one full movement a day and gradually increase. Give definite instructions that the movements are to be smooth, steady, slow movements, not jerky and that they must be to the full extent.

I explain Sir Robert Jones's laws and, if needed, instructions on deportment and walking.

In regard to the treatment of the second group all or some of these causes may lead to limitation of movement: (i) masses of scar tissue in structures immediately surrounding joints, (ii) shrinkage of synovial membrane with adhesions of varying density, (iii) destruction of cartilage to varying extent, (iv) condensation and lipping of bone, (v) bony ankylosis. Though one cause merges into the other, I think that they can be clinically distinguished and the prognosis based on the clinical finding. I have already mentioned the physical signs under the subacute stage.

Prognosis.

The prognosis in the first group is good and the patients respond quickly. The prognosis of the second group depends on whether treatment is capable of assisting the remodelling process and how far that actual process can go. My clinical records prove that it is possible for a joint with the visible and other signs of rheumatoid arthritis, which have existed for a long period, to become quite normal. My records prove that it is possible for a joint with limitation of movement, after a long period to regain full mobility. Miss G.'s case proves that it is possible to mould a limb back again to its normal position which has been in a deformed position for years. The back is greatly improved, but the recovery is not complete.

Adhesions can be broken down with safety if this is done correctly. I do not feel inclined to state

dogmatically how far it is possible to stretch a contracted synovial membrane. The length of time, the amount of contraction and the density of the adhesions must be duly weighed. I am inclined to think that the worst types are incurable.

Mrs. H.'s knees are most instructive. Miss G.'s wrists, carpal and metacarpal joints prove that it is possible to get moderate movement with adhesions so dense that an X ray expert held that the ankylosis was probably bony. I am certain that the main difficulty in manipulation is due to diseased cartilage cells. They resent trauma in some joints even on slight movement. It requires the finest judgement to know how much the cells will tolerate from day to day; the treatment of these joints must be extended over a long period. The chief debatable question is to what extent, if any, do cartilage cells recover. Dr. H. M. Hewlett, of Collins Street, informs me that it is practically accepted that they do not or if they do, that it is very rare. Clinically I should say definitely that they do. I have felt many joints with a coarse, painful grating on movement gradually become smooth and free from pain. The record of some of Mrs. H.'s joints brings out that point. Yet at the end of treatment Dr. H. M. Hewlett states that radiographically they still show definite cartilaginous changes. Pathologically it must be a slow process and if the disease is advanced it may take years. I am convinced that bony outgrowths disappear. I have watched them in fingers disappear totally. Miss G. had a large bony outgrowth on each olecranon. They are gradually disappearing and I am watching them with great interest. Whether bony outgrowths which actually limits movement, can clear up is a point for further observation.

In regard to the remote physiological symptoms my records show that it is possible to alter patients' mentality and for them to lose the mentality of an invalid and to take up their pack again. My records prove that the general health of the body alters for the better. You can actually watch the limbs regain their size and shape, the cardio-vascular system get back its vigour and the skin its normal elasticity and colour.

I have not sufficient experience to say if X rays will assist in arriving at a decision as to what treatment to adopt. It would be most interesting to be able to watch your work by their aid. In a doubtful case probably they may be the deciding factor. But in the difficult cases of ankylosis and deformity I should think they will probably not be of much assistance.

Technique.

It is impossible to describe the technique as each operator has his own, which he varies with experience and increased dexterity. At this stage it is wise to be quite plain. The difference between a movement that breaks down and assists repair and one that destroys it and so actually prevents repair, is an exceedingly fine one. The force used in each manipulation must vary with the obstacle to be overcome, which varies in each joint and from day

to day; one requires all power you can exert and another the finest sense of touch. From my experience the only guides are a trained sense of touch, which can be gained only by experience and gaining complete mastery over your hands and whole body.

The patients have to walk through a valley of many shadows and the manipulator must walk with them and lead them past the shadows. Before commencing to manipulate a joint, it is right to weigh these points.

The easiest way to explain the technique is to observe trees and note why their limbs have assumed certain positions. You observe that each variety of tree has its own habit; some are branching, some are straight, but all branches tend to go upwards towards the light. If the garden is windswept, the windward side branches are bent away from the prevailing wind, which is pressure applied intermittently. The heaviest branches are bent by their own weight, caused by the continual pressure of gravity. If you attempt to straighten the branches, you will find you can do so by either method, pressure applied intermittently or continuously. The force required to overcome the resistance of the branch must vary with the strength of the branch and the length of time to accomplish your objective will depend on the same factor. The force must be gradually applied in a certain way, sufficient to overcome the resistance, but not sufficient to tear the bark or the fibres of the limb. If that occurs, the pressure must be immediately stopped or the tear will become worse. Even then the fracture must heal with a scar. If the pressure is applied intermittently, the safest movement is a steady even pressure or a slow swaying movement. It is easy to mould a branch by continual pressure or intermittent pressure, because the tissues are sound. In a rheumatoid joint the tissues are diseased.

The only movements I use are a steady, slow pressure and a swaying movement. One hand is used to exert pressure, the other to act as a splint, to exert counter pressure and to guard against any sudden movement.

The points which guide me in how much to do in one sitting are as follows. To break down adhesions which give a short sharp snap and continue until the strain is uncomfortable and even painful; then sometimes I stop immediately and sometimes give a little more. From day to day I watch the progress of the treatment and obey Sir Robert Jones's laws. The two danger signals are if the joint suddenly feels as if it were going to move easily, stop immediately, otherwise a tearing will occur, which is fatal. If the patient suddenly cries out or the pain you are producing suddenly becomes worse, stop immediately. If tearing occurs, you will have a distinct sensation of it. On the following morning one or two of Sir Robert Jones's signs will be present.

The only thing to do is to discontinue treatment and put the joint up in wool pressure and give complete rest. Do not recommence treatment until all mischief has subsided.

Mrs. H., aged sixty-four years, was admitted to hospital on November 20, 1927. Four years ago pains and swelling appeared in her hands and fingers which gradually extended to her shoulders, elbows, wrists, knees, ankles and neck. In June, 1925, she was operated on for gall stones. Her knees have been bent for two and a half years and she has not been able to walk from that date; she crawls around with crutches. She informed me that she spent at least £1,500 on treatment, consisting of medical treatment all the time, operations on her gall bladder, hot air, electrical baths, ultra-violet rays and vaccines.

She was a large, pale woman, very flabby; her skin was waxy and smooth; she states that she never perspires. She has the typical mentality of an invalid. She was quite unable to help herself. It took two nurses to dress her and even then they had very hard work. She was unable to sit up or raise her feet off the bed by herself. She could not put her left hand to the back of her head. Her whole muscular system was soft and flabby and there was definite wasting of muscles. There was limitation of movement in the following joints: the left shoulder in all directions to 25°; both elbows, in extension to 30°; both wrists, in flexion and extension to 50°; the right hand, in all fingers and thumb to about 20°, the first phalangeal joints, index and middle fingers slightly hyperextended, the terminal phalanges slightly flexed. The left hand had almost full mobility, the terminal phalanges were slightly flexed, the right knee was limited to 50°, the left knee to 40°; in both ankles there was no range beyond a right angle. Coarse grating and very painful movement were present in the left shoulder, both elbows, both wrists and both knees which were hopelessly matted down. Coarse grating was present in other joints, but they were not so painful. Thickening of the tissues was noted around both elbows, both wrists and the right hand, the metacarpophalangeal joints of the thumb, index and middle fingers. In the left hand, the second finger metacarpophalangeal joint was affected, as were both knees. The synovial fluid was increased in several joints.

The treatment previously given consisted of removing the original focus, production of immunity by vaccines and drugs and stimulation by various forms of stimulants. It failed because it did not produce function.

The treatment of the case consisted of team work between the patient, two highly efficient sisters and myself. I gave her daily exercise of every group of muscles, at first without and then with counter-pressure, regulating my own pressure to allow her to do the movement. I manipulated all her joints. First she was taught to raise her legs off the bed and to sit up, next to stand and finally to walk. Except for an occasional bottle of medicine, that has been her sole treatment.

Her present condition is striking. Her mentality is completely altered and her general health vastly improved. Her cardio-vascular system is generally toned up. She does not feel atmospheric changes; her skin has assumed normal condition and she perspires. Her general muscular system is good and the shape of her limbs is altered. She has full mobility in all her joints except the elbows and knees. On referring to the X ray report I find that the limitation of movement in the elbows is due to new bone formation. Though I have obtained definitely increased mobility of the knees, there is still a good deal of limitation of movement. From the X ray report and skiagrams as well as the clinical findings, it is practically impossible to know if a further increase of movement is possible. From the clinical findings I feel inclined to persevere. Both joints within their range of movement are perfectly free and unless pressure is exerted on the ends of the bones, much less painful. I think the pain on weight bearing will ultimately go.

All the joints are returning to their normal shape and the coarse grating has practically disappeared from all joints, but in some there is a fine grating; they are much less painful. She is able to sew, play the piano and carry out some household duties. She sits up and gets out of bed without the slightest difficulty, walks with assistance and can get into a car by herself.

At the termination of treatment, as she went for a long holiday, I had a radiographic report prepared. The films

show some roughness and irregularity about the articular cartilages of the knee joints and apparently the articular surfaces come very close together, which always indicates destruction and absorption of cartilage. There is evidence of some new bone formation, especially seen in the lateral view. This view also shows destruction and absorption about the articular cartilage of the patella. The postero-anterior view reveals some osteophytic outgrowths about the medial margins of the lower end of the femora. The films of the elbow again made in two planes show osteophytic outgrowths about the upper end of the ulna and some roughness and close apposition of the joint spacing, again suggesting cartilage destruction. In the film of the wrists the greatest change is noticeable, especially about the articular surface of the bones of the forearm and on the radial side and the adjacent row of carpal bones. Honeycombing and osteoarthritic outgrowths are visible here.

This is undoubtedly a case of a chronic infection, but with more cartilage destruction and less bony outgrowths than is usually seen. I think this is an indication of a more acute infection. The large amount of cartilage destructions is probably responsible for her severe pain.

Miss G., aged about forty-five years, gave a vague history. She thinks that her back has been getting round since she was ten years of age. In February, 1914, she complained of pain, swelling and stiffness in her wrists; she states they have been in the ulnar position since 1915. Her other joints became affected one after the other. The knees have been stiff and painful since 1914, but during the last three or four years she has had much difficulty in walking, owing to locking and a general feeling of insecurity.

There is a well developed anterior curvature of the dorsal and cervical regions of the spine. There was limitation of movement of the right elbow in extension to 45°, in flexion to 5° or 6°, of the left elbow in extension to 20°, of the right wrist complete ankylosis in a slightly flexed position. The left wrist had very slight mobility and was in an almost straight position. In the carpal joints of both hands there was no mobility. Both hands were in a typical ulnar position; the right wrist and fingers had typical distortion. The left hand and thumb moved in flexion to 100°, in extension to 80°; the metacarpophalangeal joints in extension to 15°, in flexion to 90°; the other phalanges to about 90°. The right hand, the metacarpophalangeal joints moved in extension to 75°, in flexion to 100°; the thumb in flexion to 80°, the right knee in extension to 30°, in flexion to 150°, the left knee in flexion to 100°, in extension to 20°.

There was thickening in the tissues round the right knee and elbow and round the thumbs and some fingers. Painful coarse grating was present especially in the right knee, in the left elbow and some fingers.

Osteophytes and an enlarged bursa were found at the back of each olecranon.

I discharged her after three months' treatment as unfortunately she could not spare further time. I ordered her to continue her exercises.

Dr. Fay Maclure very kindly examined her and the following is his report:

This patient before undergoing treatment was very deaf and an example of chronic rheumatoid arthritis with typical deformities and stiffened joints. She had a very marked kyphosis with stiffened hands in flexed and in ulnar position, flexed and stiffened knees so that she walks with the aid of two sticks, an apparently hopeless case.

Three months later, when I saw her again, she was a changed individual, brighter, more confident and stated that she felt ever so much better.

Her back was straighter, the hands and fingers were more pliable and less deformed and most of the joints had their range of movement increased. Prior to treatment she was afraid to venture out without sticks and would not cross a gutter for fear her knees would give way.

She now walks without sticks and can climb upstairs. The definite lumps on the olecranon surface of each elbow have softened, are now mobile and seem to be disappearing.

I hope I have been able to prove my original contention that by observing certain principles rheumatoid changes can be prevented and even if they have been present for a long time, they can be remedied.

I recognize in writing this paper that its value lies not so much in proving that it is possible to cure joints, as in showing the principles on which they are cured. If they be correct, the results follow as a natural sequence.

Acknowledgement.

I wish to give my sincere thanks to the following gentlemen: Dr. Fay Maclure for revising my paper and for valuable advice, also for seeing Miss G. before and after treatment and for his report; I feel deeply indebted to him. Dr. H. M. Hewlett for radiographing Mrs. H., his report and opinions; Dr. W. L. Carrington, Medical Superintendent, The Alfred Hospital, for having Miss G. X rayed for reports.

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INJECTION TREATMENT OF VARICES OF THE LOWER LIMBS.¹

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SINCE Sicard⁽¹⁾ demonstrated the therapeutic results of sclerosing fluids when injected into varicose veins, many thousands of injections have been made and in many countries. The curative results have been excellent and if correct technique is adopted, the method should replace operative treatment.

Various solutions have been used, the more common being: (i) sodium salicylate 20% to 40%, (ii) quinine hydrochloride and urethane, (iii) perchloride of mercury 1% to 2%, (iv) sodium chloride 20%, (v) red mercuric iodide 10%, (vi) glucose 66% (Nobl⁽²⁾), (vii) "Metaphen" one in 500 (Schussler⁽³⁾). Schussler regards "Metaphen" as being the better solution for small varices and 50% sodium salicylate solution for the larger and more tortuous veins.

The sclerosing effect of the intravenous administration appears to depend on the pathological state of the veins. Normal veins are not affected by the injections which sclerose varicose veins.

In 1925 this point first came before my notice before I had contemplated curative injections of

¹ Received for publication April 2, 1929.

varicose veins. The patients recalled were women who required injections of one of the arsenobenzol compounds. The arms were very fat and no veins could satisfactorily be injected. These women, however, had varicose conditions of the saphenous veins and these provided a possible channel for injection and therefore the "Novarsenobillon" solution was introduced by means of these veins. Subsequently it was found that the injected veins had become cord-like and eventually they disappeared. These results are interesting in the light of present treatment of varicose veins.

For the curative treatment of varicose veins I have not used the arsenobenzol solutions, but have mainly followed the methods used by Forestier⁽⁴⁾ and like this worker, I regard sodium salicylate solution as giving the best results.

Technique.

A brief summary of the technique is here given:

The solution is made in two strengths, namely, 20% and 40% sodium salicylate in distilled water. All-glass syringes and rustless steel short bevelled hypodermic needles are used. The patient stands upon a broad stool by the side of a surgical table.

The method of injection is as follows. The patient by assuming the standing posture produces a distension of the veins so that the vessels for injection are readily selected. The skin is cleaned with ether and the needle is inserted obliquely into the skin until the vein wall is encountered. At this stage the needle is directed almost parallel to the vein and the point is pushed well into the lumen of the varix.

A spare syringe is next attached to the needle and the piston slowly withdrawn. If blood enters the syringe the patient at once lies down on the table and the syringe, previously filled with the solution of sodium salicylate, is connected to the needle in place of the syringe containing the blood. This latter syringe is preferably of the eccentric type. Now with the patient recumbent the blood leaves the veins so that when the sclerosing fluid is injected it immediately impinges on the *intima* without any diluent or buffer effect from the blood.

The amount of solution injected varies between three and five cubic centimetres.

Several veins may be injected at one sitting, but an interval between injections is desirable owing to the cramp of vaso-motor origin. The cramp develops mainly owing to stimulation of the sympathetic which supplies the unstriped muscle of the veins. These cramps pass off after a very short time.

Effects of Injection.

Soon after the injection a sterile endovenitis occurs and subsequently the inflammation spreads to all the coats of the vein. The thrombus which occurs later, tends to travel distally rather than in a proximal direction and this reduces the prospect of emboli to a minimum.

The usual venous flow is centripetal, but in varicose veins this does not appear to be true. I have noticed that the injected veins thrombosed distally

rather than proximally to the site of injection. This was probably due to the centrifugal flow of blood as has been shown by Jentzer,⁽⁵⁾ of Geneva. This worker investigated the direction of venous flow in varicose veins by injections of 20% strontium bromide solution into the lumen and then using radiography and radioscopy.

Forestier⁽⁴⁾ together with Sicard and Gaugier injected iodized oil into the varicose veins under a fluoroscopic screen and they found that the flow, if not reversed, was almost negligible. They found that the liquid injected into the superficial network of veins did not show any tendency to extend to the deep-seated network when the injection was made on the recumbent patient.

Dalton⁽⁶⁾ has indicated the sclerosing effect of small injections of carbolic acid and claims excellent results without cramps and with less subsequent inflammation than occurs from other liquids.

This method of treatment is not new, as the injection of haemorrhoids with carbolic acid has been practised for years and I myself have injected piles with carbolic acid after the method of Lockhart-Mummery.⁽⁷⁾

The actual changes in the varices have been thoroughly followed. The liquids do not coagulate the blood *in vitro*, but irritate the endothelium and cause congestion. Fibrin is deposited on the walls of the injected vessel and this fibrin adheres to the whole of the irritated surface of *intima*. Coagulation of blood takes place where it is in contact with the fibrin and by organization fibrous tissue is laid down and sclerosis ensues.

Contraindications.

It is felt that renal or cardiac involvement in a pathological process must contraindicate intravenous injections. The wisdom of injecting varicose veins during pregnancy is also a question which demands challenge. Where there is venous and lymphatic oedema of the lower limbs, injections are also contraindicated.

It may be stated generally, however, that the obliterating injections give very encouraging results and that even the very pronounced varices so yield to this treatment that they might well come within the category of cures.

Summary.

In summarizing the treatment of varicose veins by sclerosing fluids it is desired to emphasize the following salient points:

1. Most varicose veins of the lower extremities are suitable for treatment by injection, in fact a greater percentage is available for injection than for extirpation.

2. Sodium salicylate solution appears to be the most satisfactory fluid for injection.

3. There is little pain or inconvenience. The treatment is ambulatory and causes little loss of time.

4. The risk of embolus or other accident is almost nil.

5. The obliteration of the veins results in far less unsightly legs than the extirpation would provide and the stockinged legs of women will not betray the late varices, whereas scar tissue is frequently obvious through the stockings and in these days of abbreviated skirts far more women (from "*mobiles de coquetterie*") than men seek a non-disfiguring treatment.

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Reports of Cases.

MALIGNANT DISEASE OF THE TONGUE AND MOUTH.

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THE following are the histories of several patients who have been operated on for malignant disease of the tongue, floor of the mouth and jaw.

Carcinoma of the Tongue.

E.J.T. had an epithelioma of the left side of the tongue. The notes of the case did not state how long this had been noticed. Operation was performed on July 7, 1925. The glands were removed by dissection from the left side of the neck and the external carotid artery was tied. This was followed at once by removal of the left half of the tongue by the diathermy knife. The sterno-mastoid muscle was sutured down to the thyreo-hyoid *et cetera* before removal in order to limit the extent of the wound exposed to infection from the mouth. Bismuth, iodoform and paraffin paste was used with packing above this level. During the second week a sharp hæmorrhage occurred from the stump of the tongue. This was controlled by packing.

On September 11, 1925, a small sinus was still present in the side of the neck. On October 19, 1925, redness and swelling were present around the wound, followed a few days later by the discharge of two sequestra from the jaw, with subsequent healing. No section of glands was made to determine whether involvement had occurred. There is no sign of any recurrence to date.

A.J., aged sixty-five years, was admitted on May 8, 1928. For twelve years he had had a swelling on the tongue. This had slowly increased in size in ten years, but had grown much larger in the last two years. He had had an ulcerative condition of the left forearm, wrist and hand for the last eighteen months. This healed on antisyphilitic treatment.

On examination there was found a very large papillary mass involving the extremity of the tongue. The tongue protruded readily and was freely movable from side to side. The submaxillary glands were palpable, but not enlarged or hard. The left pupil was larger than the right.

¹The patients described herein were at a meeting of the Victorian Branch of the British Medical Association on September 10, 1928.

The response to the Wassermann test was "++." The gummatous ulcers of arm and hand were healing. Section of the growth revealed squamous cell carcinoma at the base of the papilloma.

Operation was performed on May 10, 1928, and consisted of simple removal of the growth with a 1.25 centimetre (half-inch) margin by V-shaped incision. The glands were not dissected. They could no longer be palpated on September 19, 1928.

Mrs. J., *atatis* sixty-eight years, was operated upon on September 20, 1924, for a carcinoma involving the right border of the tongue at the junction of the anterior and middle thirds. The right side of the neck was dissected and the external carotid artery was tied. The sterno-mastoid muscle was sutured to the deeper muscles (thyreo-hyoid *et cetera*). The hyo-glossus and genio-glossus muscles were divided with the cautery knife, the upper part of the wound was treated with bismuth, iodoform and paraffin paste and then rather more than half the tongue was removed with the diathermy knife (tension). Iodoform gauze packing was applied to the cavity. Section revealed the glands extensively involved with secondary squamous-celled carcinoma.

Operation took place four years ago. She has not attended the meeting, but she was alive and well a week ago.

Mr. J.P. was admitted in August, 1924, complaining of swelling of the right side of the tongue for three months. He noticed that he could not put his tongue out and there was a lump like a cauliflower on it the size of a sixpence. There had been pain under the right jaw running up to the mastoid region for the past seven weeks and difficulty with swallowing and loss of 6.3 kilograms (one stone) in weight.

On examination there was a hard indurated mass in the anterior half of the tongue, larger and also extending further back on the right side. It was irregular in its limits and at one spot on the right side was ulcerated. He could not protrude the tongue beyond the teeth. The cervical glands were enlarged, mainly the right submental and submaxillary glands. The Wassermann test yielded a positive result. Section revealed chronic epithelioma *plus* a chronic inflammatory element.

Operation was performed on August 21, 1924. Gland dissection was carried out on the right side from about the level of the omo-hyoid upwards. The external carotid artery was tied. The glandular mass was separated from the hyo-glossus muscle with the diathermy knife (tension) and removed. The hyo-glossus, genio-hyoid and genio-hyo-glossus muscles were divided in the same way just above the hyoid bone, the diathermy knife passing about half through the origin of the tongue. The mucous membrane of the floor was not divided. The wound was closed and drainage was provided. Examination after section revealed no secondary deposit in the glands.

At operation on September 1, 1924, the left side of the neck was dissected and the carotid artery was tied. The sterno-mastoid muscle was sutured down to the thyreo-hyoid muscle *et cetera* to cut off the lower part of the operation field. Section of muscular origin of the tongue was completed with the diathermy knife. The upper field was treated with bismuth, iodoform and paraffin paste and gauze packing was applied. The mucous membrane of the floor of the mouth was divided in the same way, on the left side close to the tongue, but on the right at the alveolar reflection and the tongue was removed.

The immediate result following the operation was satisfactory except that a small sinus persisted on the right side of the neck, with escape of fluids on swallowing and a salivary moisture. A year later, August 28, 1925, a small plastic operation was performed. Flaps of tonsillar tissue, mucous membrane and skin were turned across and considerable improvement resulted.

The patient did not receive adequate supervision, so that two years and eight months later he was readmitted. He stated that "ulceration" had begun again four months before. An epitheliomatous ulcer 3.75 centimetres (one and a half inches) in diameter involved the symphysis and right ramus where section of the mucous membrane had been carried out too close to the bone for safety.

A third operation was performed on April 27, 1927. Diathermy was applied with a button electrode to the bone and soft tissues. Following separation of the sloughs several hæmorrhages occurred. After separation of a sequestrum healing quickly followed and no further sign of recurrence has been made out.

It is thus four years and one month since the primary operation and one year and five months since the last.

Carcinoma of the Tongue and Floor of the Mouth.

H.C. was admitted in August, 1925. He complained of swelling under the tongue for the previous seven weeks and for three weeks swelling of the right side of the tongue. On examination there was an ulcer on the right side and at the extreme posterior aspect of the right margin of the tongue, extending to the floor of the mouth. No glands were palpable. Section revealed a squamous-celled carcinoma.

Three teeth, right lower molars, were removed prior to operation. Operation was performed on September 3, 1925, under ethyl chloride and ether anaesthesia given by the open method. The neck was dissected and the external carotid artery was ligated. On September 17, 1925, the cheek was divided back as far as the masseter muscle and heavy diathermy was applied by button to the involved area of the tongue and the floor of the mouth. This was done under chloroform anaesthesia induced by the intratracheal method. On October 8, 1925, further diathermy was applied to a doubtful area under chloroform given by the nasal route. Separation of the last sloughs of soft tissues occurred on October 25, 1925, and the patient was discharged from hospital three days later.

He was readmitted after sixteen months with a recurrence involving the right tonsil and wall of the pharynx. Operation was undertaken on January 20, 1927, under chloroform anaesthesia induced by the Junker apparatus with the Davis gag. Diathermy was applied to the right tonsil and to the pharyngeal wall as far as the greater cornu of the hyoid bone. A good deal of pain followed. This is unusual after diathermy. The pain was referred to the ear in particular and the patient complained of difficulty in swallowing. The pain gradually subsided and disappeared after some months. Repeated inspections at regular intervals showed no sign of return, locally or in the glands. It is now three years since the first operation.

Carcinoma of the Floor of Mouth and Jaw.

Mr. R.H., *atatis* sixty-one years, had an epitheliomatous ulcer the size of a florin under the front of the tongue and involving the adjacent part of the jaw which was edentulous. This had been noticed some five or six weeks. The submaxillary glands on both sides were enlarged, but not hard. At operation on March 25, 1927, dissection of both sides of the neck was followed by heavy diathermy to the ulcer and the jaw in the region of the adherent growth. In spite of care in noting the temperature of the skin covering the chin during the passage of the current, extensive sloughing followed. The lower lip was not involved in this, but about 7.5 centimetres (three inches) of the jaw necrosed—an unnecessary amount probably.

Much difficulty with feeding occurred in the following three weeks. Plastic repair was carried out, the lower lip being utilized after saw resection of five centimetres (two inches) of necrosed bone and wiring of the necrosed ends (sequestra had not yet separated). Final healing, with the exception of a very small sinus into the mouth, followed removal of two sequestra. There is non-union of the rami, but no difficulty with nutrition, as there has been a gain of nine kilograms (twenty pounds) in weight since operation eighteen months ago.

The "V" deformity of the lower lip which allows some escape of saliva, would lend itself very easily to a reconstruction, but the patient is well satisfied with things as they are.

Comment.

These patients, with the exception of A.J., who was shown on account of the rather unusual type of epithelioma, are shown to demonstrate the fact that after removal of a carcinoma of the tongue, even with gland

involvement, survival for a number of years is not impossible. There is perhaps a tendency at the present time to forget that in diathermy one has an extremely valuable method of attack in such conditions, particularly when the growth lies in close proximity to or actually involves the jaw. In this latter contingency diathermy is probably superior to radium.

Diathermy may be employed in two ways: (i) To produce a massive coagulation of tissues either by using a comparatively large button electrode to the surface of the growth and its immediate surroundings or by multiple transfusions of the tissues to be destroyed by needle electrodes; (ii) to section the tissues of the tongue and floor of the mouth in comparatively bloodless fashion and with the production of a more or less superficial necrosis of the sectioned surface. This method reaches perfection in the particular type of current generated by the Wyeth endotherm, but nearly all diathermic currents will section tissues when held under tension for this purpose.

Examples of massive coagulation are furnished by the cases of H.C., R.H. and the last operation on J.P., whilst diathermic section was carried out in the cases of E.J.T., Mrs. J. and the first two stages of J.P.

In the superficial necrosis which accompanies diathermic section lies a safeguard against the escape and implantation of carcinoma cells. Thus the mass of glands, lymphatic and salivary, which has been dissected up from the neck and submaxillary region, may be safely removed from its deep relations (*musculus hyoglossus et cetera*) and a staged operation carried out. It will be noticed that in the cases of J.P. and H.C. the neck was dissected ten to fourteen days before the primary growth was dealt with. When operation is completed in one stage, infection of the neck is minimized by treatment of the wound with bismuth, iodoform and paraffin paste and closing off the lower part by suture of the sterno-mastoid forward to the infrahyoid muscles.

The procedure in the case of J.P. was unusual in that the right side of the neck was dissected and the right half of the tongue divided from its hyoid attachments, but left *in situ*. This completed the first stage, infection of the neck being prevented by preserving the mucous membrane of the right floor of the mouth intact. In the next stage the same procedure was followed as regards the neck and tongue on the left side and after division of the mucous membrane of the floor of the mouth on both sides, the whole tongue was removed at the level of the hyoid. Infection of the right neck had been prevented and on the left it was minimized by the method mentioned. This patient's speech is intelligible and his only complaint is of increasing stoutness in spite of an arduous employment.¹

CONGENITAL UNILATERAL ABSENCE OF UTERINE TUBE (FALLOPIAN) AND OVARY.

By REG. E. NOWLAND, M.C., M.B. (Sydney),
Demonstrator of Anatomy, University of Sydney.

MRS. H., *atatis* thirty-nine years, complained of recurring severe attacks of pain in the right iliac fossa for a number of years, also of dragging pain in the left iliac fossa. Her menstrual, past and family histories contained nothing of importance. She has had three children, one girl and two boys. She has had no previous operation.

On examination her abdomen was tender over McBurney's point. Tenderness was also present in the left iliac fossa; no mass was palpable through the anterior abdominal wall. *Per vaginam* examination revealed leucorrhœa, a retroposed uterus and a tender mass about the size of a small hen's egg in the left fornix. This was thought to be an ovarian swelling. There was tenderness in the right fornix, but nothing definite was palpable.

At operation I opened the abdomen by a mid-line incision below the umbilicus. The uterus was retroposed and slightly enlarged, otherwise it looked normal. The left uterine (Fallopian) tube was deeply injected, the left ovary

¹Both J.P. and H.C. are seen and reviewed regularly and are well nine months after the meeting at which they were shown, that is to say four years and nine months and three years and nine months respectively after operation.

was cystic with some ovarian tissue that looked fairly normal about the centre, an old *corpus luteum* was present. The uterine (Fallopian) tube and ovary were absent from the right side. A small bud was present at the right cornu, indicating the uterine attachment the tube would have had, had it developed. No trace of a right ovary was detected, though carefully sought. The *ligamentum teres uteri* and *ligamentum latum uteri* were present on both sides. The appendix was elongated and bulbous with a subacutely inflamed tip. The cysts of the ovary were evacuated and oversewn, the appendix was removed. Ventrifixation was performed. Recovery was uneventful. The patient has menstruated regularly since the operation and now, five months later is very well.

According to Fritz Kermanner in "*Biologie und Pathologie des Weibes*," malformations of the Fallopian tube are relatively rare; the most frequent are variations in length. Complete rudimentary development of one or both Fallopian tubes with a well developed uterus is exceedingly rare. Sanger has found the right tube as a thin string which cranially ended in a small cyst, in a patient with a small and simple uterus. The genesis of rudimentary cornua is understandable. We are usually dealing with a rudimentary Müllerian duct which has been laid down in development, but apparently has not the ability to make use of the mesenchyme around it to form a muscle wall. Complete absence of one tube in a normal uterus has been described by Blot. The ovary of that side was reduced, but present.

Acknowledgement.

The literature on the subject is very scanty, so I am grateful to Professor A. N. Burkitt for the trouble he has gone to to suggest certain literature, amongst which is that of F. Kermanner, as above.

Reviews.

THE SEXUAL PROBLEMS OF MIDDLE AGE.

DR. MARIE STOPES achieved a very great deal in her first book, "*Married Love*." It contained a message to young married people at once helpful and sane. It has gained immense popularity, as is evidenced by the fact that it is in its eighteenth edition and six hundred and forty thousand copies have been sold. Dr. Stopes has approached a more difficult problem and has published a further contribution to the solution of sex difficulties ten years after her first book. The new volume bears the title "*Enduring Passion*."¹ It has been written for married lovers of middle and advanced age, for men and women who are not in complete marital harmony, for the sexually hungry and for the sexually indifferent. Unfortunately Dr. Stopes, like many other authors, does not react favourably to success. Her teaching physiology is defective, but because she has been happy in her treatment of a sexual problem of young people, she poses as an authority and pits her opinion against the experience of those who have made physiology their life study. She employs suggestion unconsciously and endeavours to establish her hypotheses on final cause arguments. Her literary gift is somewhat marred by over-assertion and by unnecessary emphasis. In part her book admirable; it contains much valuable advice and some sound observation. In part she persuades herself that she had solved problems that have baffled all others before her.

Dr. Stopes is convinced that the frigid woman is a rarity. She attributes lack of sexual response to wooing to abnormal anatomical development in the first place, to hypocrisy in the second and to sexual disharmony between the husband and the wife in the third. While every seriously minded person must agree that normal sexual reactions are important elements in married life and that marital happiness is to a large extent dependent on sexual compatibility, we hold the opinion that Dr. Stopes goes too far in her doctrines. Intellectual and

social understanding must remain the main bonds that tie man and woman together in happy married life. Those whose artistic, cultural or occupational tastes are divergent, are unlikely to find contentment, even if occasional sexual intimacy leads them to forget for the moment their differences and difficulties.

In the first chapter she takes pains to prove to her complete satisfaction that the old Latin proverb, *post coitum omne triste*, is false. She admits that the conception of a feeling of disgust after the consummation of the act of sexual union has its origin in illicit or loveless mating. Her contention may be accepted, but it is difficult to give sanction to her claim that the world has been hungering for information how to secure and maintain reasonably happy circumstances that remove postcoital revulsion and that she is able to deliver that knowledge. She draws many useful lessons from the history of happily married couples, although the reader may doubt whether the true married lover would confide his or her most precious secrets to a publicist, but she interlards these helpful messages with artificial aids to the awakening of sexuality that strike a discordant note. Her assumption of the rôle of physiologist and physician will meet with opposition from the majority of medical practitioners. She advocates the oral administration of pluri-glandular extracts for the purpose of stimulating virility and expresses disapproval of hypodermic injection. It is held by many experienced physiologists and competent physicians that with the exception of thyroid, adrenal and pituitary extracts none of the glandular preparations has any real therapeutic action. Moreover, it is certain that with the exception of thyroid extract the acid content of the stomach destroys the hormonal activity. If the authoress has witnessed increased sexual activity after the prolonged taking of glandular extracts by mouth, the action must have been suggestive and not biological.

There is no fool like an old fool. Dr. Stopes deals with the management of the aged prostatic in whom impotence is combined with *libido*. Does she really contend that the world has been hungering for information of this kind or that the essence of the trouble has not been understood?

We regret that Dr. Stopes has written "*Enduring Passion*." She directs her attention to husbands who love their wives and to wives who love their husbands. Where the affection is deep, there is no need for what Dr. Stopes labels the knowledge of the subtler problems of sexology; she is beating the air by offering to such people advice on these intimate matters. It seems to us that if Dr. Stopes is addressing her book to couples who are not lovers in the true sense, she is optimistic in supposing that her regulation of the sexual act will be productive of lasting happiness.

THE ESSENTIALS OF MEDICAL PRACTICE.

DR. J. J. CONYBEARE and his collaborators have accomplished in their "*Textbook of Medicine*" the very difficult task of compressing within less than one thousand pages the essentials of modern medical practice.¹

In the various sections the treatment of the subject has been strictly from the clinical aspect. A consideration of the pathology and the laboratory, radiological and other specialized methods of diagnosis has been introduced only in so far as it is necessary to render intelligible to the student the symptomatology, course, diagnosis and treatment of the morbid condition under discussion. In this way much of the material which unnecessarily encumbers too many modern text books of medicine, has been discarded, for the authors have recognized that in the medical curriculum these ancillary subjects are taught and studied concurrently with clinical medicine.

The subject matter has been classified in a convenient manner and the amount of space allotted to each subject is proportionate to its relative importance.

The book, in spite of its necessary compression, is written in a clear style, easy and pleasant to read.

¹ "*Enduring Passion*," by Marie C. Stopes, D.Sc., D.Phil., 1928. London: Putnam's Sons. Crown 8vo., pp. 214. Price: 6s. net.

¹ "*A Textbook of Medicine*," by Various Authors; Edited by J. J. Conybeare, M.C., M.D. (Oxon.), F.R.C.P.; 1929. Edinburgh: E. and S. Livingstone. Demy 8vo., pp. 990, with illustrations. Price: 22s. 6d. net.

The section on diseases of the nervous system which is contributed by Dr. F. M. R. Walshe, is particularly lucid and satisfying. It deals thoroughly with this difficult branch of the student's training and succeeds well in showing the relationship between the phenomena of nervous diseases and the underlying structural and functional defects which cause them.

Professor Hugh McLean has written the article on diseases of the urinary system and has well presented the modern conception of nephritis. This is as we should expect from one who has devoted to this subject so much study and research.

A small appendix on the medical examination for life insurance is a rather unusual feature, but it should be of considerable value.

As in most text books of medicine produced in Great Britain, the subject of hydatids is very inadequately dealt with. For the Australian student the failure to mention hæmoptysis as a symptom of hydatid affecting the lung is a serious omission from its teaching.

The book which is well produced, well printed, adequately illustrated and indexed, fulfils a real want. It is in no sense a "cram-book" and may be recommended without hesitation to students proceeding to their examination for graduation.

THE BILIARY TRACT AND ITS DISEASES.

"DISEASES OF THE GALL BLADDER AND BILE DUCTS," by Graham and his associates at the Washington University School of Medicine, is a book of special interest.¹ It is the first publication for more than twenty years which may be regarded as a comprehensive presentation of our knowledge of diseases of the biliary tract. The authors are among those who in recent years have made notable contributions to this subject. Evarts Graham will be remembered for his work on the pathogenesis of cholecystitis and to Graham and Cole principally we owe the development of cholecystography.

It has been a difficult task to present a full account of this subject in which so much of our knowledge is the result of work done within the last decade and in which further important advances are following quickly.

In the first chapter there is a good account of the anatomy of the bile passages. The section on lymphatics of the gall bladder and ducts contains a review of important recent work done by Graham, Kodama and others. Anatomical variations and abnormalities of surgical importance are well described and illustrated.

Then follows a good account of the physiology of the gall bladder. The chapter is indeed full of good matter, the writer hurrying breathlessly from one quotation to the next until one hundred and eighty-six original papers have been named in the space of fifty pages.

Cholecystitis and gall stones form the subjects of two chapters in which as elsewhere in the book the literature is comprehensively surveyed.

As might be expected much space is devoted to the radiography of the gall bladder. If the reader considers that one hundred pages of a book of about five hundred pages is too much to devote to radiography, he should remember that the authors have a paternal interest in cholecystography. This section is a book within a book. The clinician as well as the radiographer will find it worth reading attentively.

A full account of the application of liver function tests is given in the eighth chapter and the subject of jaundice is here dealt with.

A useful chapter on the surgical treatment of cholecystitis completes the book.

The medical profession owes a debt of gratitude to the authors for the completion of a great undertaking. Their

¹ "Diseases of the Gall Bladder and Bile Ducts, a Book for Practitioners and Students," by Evarts Ambrose Graham, A.B., M.B.; Warren Henry Cole, B.S., M.D.; Glover H. Copher, A.B., M.D.; and Sherwood Moore, M.D.; 1928. Philadelphia: Lea and Febiger; Sydney: Angus and Robertson. Royal 8vo., pp. 477, with illustrations. Price: 30s. net.

book is one which scarcely any practitioner can afford to be without. As a handy reference book it will be most valuable.

The index of authors whose work is noted contains more than seven hundred names. At the same time the manner of presentation of the matter and the profuseness with which recent work, not all of great value, is reviewed, will make it necessary for the book to be largely rewritten in the near future.

DIFFERENTIAL DIAGNOSIS.

"SURGICAL DIAGNOSIS IN TABULAR OUTLINE," by Dr. Cemach, of Vienna, translated and added to by Dr. E. L. Bortz, of Philadelphia, is a very complete and detailed classification of the elements of differential diagnosis in practically the whole field of surgery.¹

It is a senior student's book primarily in that it would assist and direct in the tabular arrangement and crystallization of the student's knowledge and would add thereto. The inherent nature of this class of work, however, has the limitation that it cannot well aid in giving the perspective to be obtained by text book and monograph reading combined with clinical experience.

As a diagnostic help to the busy practitioner it would be of much value not only in exceptional forms of common complaints, but also in the recognition of the rarer conditions.

A quite remarkable feature is the quantity, quality and orderly arrangement of the illustrations, both photographic and diagrammatic. They are mostly original and are placed and referred to in such a manner as to give full scope to their utility.

The book shows evidence of great industry (the bibliography occupies twelve pages) and wide experience and has quite a unique individuality.

THE HISTORY AND PRINCIPLES OF RÖNTGEN RADIATION.

A SMALL book entitled "Roentgenology," by Professor G. W. C. Kaye, has been received.² The volume is really an expansion of the author's Caldwell Memorial Lecture which was delivered at Montreal in 1927 and in addition contains two appendices on protection of X ray workers and on the ideal working conditions for hospital radiographic departments. The opening chapters deal with the history of X rays and with their nature. The third, fourth, fifth and sixth chapters describe the reflection, refraction and diffraction of X rays and prove clearly that X rays fulfil all the optical requirements of the electromagnetic wave theory of radiation. The author describes the investigations of the protective committee in England after the occurrence of numerous deaths from aplastic anaemia in radiologists (recommendations of the committee are given in full in Appendix A). The protective values of various thicknesses of lead at different voltages are given in table form in chapter eight, together with the density of various building materials. The author stresses the importance of suction fans in the dark room and the operating rooms and deprecates the practice of placing hospital X ray departments in basements.

Since a knowledge of the basic physical principles of X radiation is indispensable to the medical radiologist, this book will be of value to him as well as to the pure physicist. The chapters on working conditions and the appendices on protection will enhance its value to the former.

¹ "Surgical Diagnosis in Tabular Outline for Students and Physicians," by Dr. A. J. Cemach; Authorized Translation, with Additions and Notes by Edward L. Bortz, M.D.; 1928. Philadelphia: F. A. Davis Company. Imperial 8vo. Price: \$12.00 net.

² "Roentgenology: Its Early History, Some Basic Physical Principles and the Protective Measures," by G. W. C. Kaye, O.B.E., M.A., D.Sc., F.Inst.P.; 1929. New York: Paul B. Hoeber, Incorporated. Crown 8vo., pp. 171, with illustrations. Price: \$2.00 net.

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The Prevention of Disease.

It will be remembered that late in 1925 the Royal Commission on Health of which the late George Adlington Syme was chairman, issued its report and that in this report there were many important recommendations. The fourth section of the report is concerned with the prevention of disease. The commissioners examined the many questions involved in this large subject and took a wide view of what could be done and what had been achieved. In a previous section the commissioners had come to the conclusion that a Commonwealth Ministry of Health could not effectively carry out the functions of a health department similar to that of Great Britain except by devolving its powers on local authorities in the several States. The arguments employed in support of this contention were the size of the Commonwealth and the variations of climatic and other conditions. The commissioners suggested that there should be the widest possible cooperation between the Federal Ministry and the departments of health of the several States. While we have recognized that there are many constitutional difficulties in the way of the assumption of control of health matters by the Federal authority, we have pointed out that the problems of the prevention of disease, of the raising and maintaining the standard of health of the community and of the control of matters connected with the problems of health and disease are the same in all parts of the Commonwealth and that since the principles of health law administration should be the same, there would be but small difficulty in the minor adjustments demanded by the variations of climate, customs and habits of the people and the density of population. Moreover, in all schemes for the improvement of the public health it is essential to give to the local authority a considerable amount of autonomy and

to require it to carry out many of the important functions of a health department. There is no insuperable difficulty in compelling the local authority to do what it is told and to pay for it. We maintain that this expedient of devolving powers and duties on local authorities can be effected as easily by a Federal department as by a State department. There are many convincing arguments in favour of handing over the powers of the State departments to the Commonwealth rather than relying on cooperation and coordination of effort. On the ground of efficiency, economy and uniformity this plan has everything to recommend it. The State governments would therefore be acting in the interests of the people of Australia if they relinquished their sovereign rights in connexion with health. They would lose nothing, since the expenditure of money on problems connected with health is not popular and has but little political significance.

In the section on the prevention of disease the commissioners recommended that the Commonwealth Department of Health should formulate a model outline of general principles of health administration and that the Commonwealth Government should subsidize the State departments of health provided that the administration of each conformed to the model drafted by the Commonwealth. In a subsequent section it was recommended that legislation should be enacted, if necessary, to require medical practitioners to provide statistics of births, deaths, still-births, infective diseases and similar matters to the Commonwealth Statistician, that the Commonwealth should require as a condition of subsidies to States for general health administration that their legislation should provide for the active participation of medical practitioners in local health administration and that the Commonwealth should endeavour to arrange for the transfer to it from the States of their powers in regard to the registration of medical practitioners.

The Commonwealth Department of Health has given effect to many of the recommendations relating to the prevention of disease, but all of these matters are of a preliminary nature and are rather ancillary to the problem than a fundamental part of it. There has been no sign from the States of

any desire to use the Commonwealth Department of Health as a coordinating agent. The legislation on health matters in the several States is as complicated and as dissimilar as it is possible to be. Uniformity does not exist and no serious attempt has been made to recast the legislation in the several States on a model plan devised by the Commonwealth department. None of the States has complied with the conditions precedent to the granting of a subsidy; there is no plan in working order to enlist the cooperation of the general practitioner in the prevention of disease. It appears further that the endeavours of the Federal Government to persuade the State governments to hand over their powers in regard to the registration of medical practitioners have been unavailing.

It is unnecessary to support the commissioners in their demands. The Branches of the British Medical Association in Australia have approved of the report of the Royal Commission on Health and have supported the Federal Committee in advocating the contained recommendations. As the medical profession is practically unanimous in advocating the proposals in regard to the prevention of disease referred to above and as the Commonwealth Government has manifested its willingness to carry into effect the recommendations, the governments of the several States are incurring a grave responsibility in offering passive resistance to these proposals for the benefit of the community. In some of the States the administration of the health laws is practically impossible, in view of the cumbersome and illogical legal provisions. In one or two States departmentalism has been developed to such a degree that the interests of the public are almost obscured. Complicated acts, acts contradicting each other, acts that are based on wrong premisses contribute to the hopelessness of the situation. It is folly to expend large sums of money on the administration of legislation of this kind. The State governments are to be blamed for adopting so reactionary an attitude; they are equally blameworthy for failing to recognize that the health of the Australian people would be safer if placed under one control or failing that on a uniform plan of control devised by the Commonwealth department. Years have passed

since the Royal Commission on Health urged that the services of the general practitioner should be enlisted in a strenuous attempt to conquer preventable disease. We have supported this proposal as strongly as possible, but no action has been taken either by the health authorities in the several States or by the medical profession itself. The health of the people is priceless; on it depend the prosperity and development of the nation. If this plan of coordinated effort is a sound one, how can we justify a prolonged postponement of its adoption? At the present time much valuable work in connexion with the prevention of disease is being carried out as isolated efforts, in a sporadic manner. It is reasonable to initiate a new proposal in a localized community, but when the measures have been shown to be effective, it is essential that they should be adopted in all parts of the Commonwealth without loss of time. The State governments can choose between reforming their health legislation on a model plan or relinquishing their power to the Commonwealth.

Current Comment.

THE USE OF CALCIUM IN TUBERCULOSIS.

CALCIUM has long been known to play a part in the healing of the tuberculous lesion. It was taught that healing occurred as a result of calcification of the focus—in other words as a result of the deposition of lime salts. Maver and Wells have shown that there is a natural tendency of calcium to accumulate in all necrotic tuberculous processes, regardless of the question of healing of the focus concerned. It has therefore been pointed out that it is more correct to speak of tuberculosis healing with calcification. Some investigators have advanced statistical evidence to support the thesis that the mortality from pulmonary tuberculosis is lower in places in which the soil is rich in salts of calcium. It has also been pointed out that the mortality is lower among workers inhaling dust laden with calcium. This has been carried to its logical conclusion and the suggestion has been made that work with lime and cement might be recommended for the tuberculous or that a lime works might be chosen as a site for a curative tuberculous colony. Of course, it is possible that districts with soil rich in calcium would have a climate more suitable for tuberculous people and many other factors would have to be considered before a definite conclusion could be reached in regard to the efficacy of the inhalation of calcium dust. It is not sur-

prising that efforts have been made to cure tuberculosis by the administration of calcium.

In a recent report of some experimental work J. Clifford Hoyle¹ points out that figures published in the Registrar-General's Decennial Supplement for 1921, do not support the claim that workers in lime are relatively immune to tuberculosis. He also states that clinical reports of the value of calcium administration are exceedingly optimistic. He holds that these observations have not been properly controlled and that for this reason they have no precise value. He refers to some previous work of his indicating that a purely local caseating focus in laboratory animals is invariably accompanied by a slight rise in serum calcium and that this suggests that in these circumstances a compensatory mechanism is at work to facilitate the supply of calcium for the limited lesion. In other words the level of the serum calcium is an index of the ability of the organism to maintain the supply of calcium required by the diseased tissues. He adds that since all forms of tuberculosis are accompanied by caseation, it is obvious that if the disease progresses sufficiently rapidly, the serum calcium will be lowered and a relative calcium deficiency will occur. Under such conditions it is rational to supply an excess of the element to the patient and so to attempt to prevent the continuous drain on the tissues.

Hoyle has undertaken an investigation by producing tuberculosis in rabbits and injecting them with calcium chloride by the intravenous route. Fourteen animals were given intraperitoneal injections of 0.001 milligramme of a serum culture of a virulent bovine strain of tubercle bacilli. Eight were kept as controls and the rest were given intravenous injections of calcium chloride. The dose of calcium chloride given was five milligrammes of the drug per kilogram of body weight and this was given every day for a week. Later on twice the dose was given. Some animals received forty-eight doses. These doses are slightly less than those which would be taken by mouth by an average man. The treatment was in every instance "pushed to the limit of safety" and the animals received much more calcium per kilogram of body weight than the animals with which other investigators have experimented. The average length of survival of the control animals was fifty days and of the treated animals forty-six days. At *post mortem* examination no differences were found in the two groups either in the extent or character of the disease, except in one instance. In this instance the animal had received forty-eight injections of calcium, the changes in the lungs were less than in others, but the peritoneal involvement was severe. Hoyle concludes that treatment by intravenous injection of calcium has no effect in prolonging the course of the disease in a moderately rapid experimental infection and that experimental evidence is lacking

that calcium exerts a direct therapeutic action on the course of the disease.

The findings of Hoyle are of a negative character and, as he points out, no definite conclusions can be drawn. The conditions in his experiments cannot be compared to those of a tuberculous patient. With calcium as with many other elements, it is one thing to obtain absorption and quite another to obtain utilization. This was shown in a recent discussion on iron metabolism in these pages. If it were not so, the therapy of such diseases as osteomalacia and other bone conditions would be a simple matter. The proper source of all these essential elements of body tissue is the food, the vitamins playing a large part. Herein doubtless lies part of the secret of the benefit derived by the tuberculous from food of a certain kind. In anæmia the administration of iron undoubtedly does good, though it is difficult to demonstrate experimentally; much iron may be absorbed and but little utilized. This is no argument against the use of iron. Calcium plays a part in the healing process of tuberculosis. Whether healing occurs because of calcification or whether the calcification is merely an accompaniment of the healing process need not be argued at present; calcium is needed. It is probably withdrawn from another part of the body to be used in and around the tuberculous focus. It is therefore logical to supply calcium to the organism. Benefit has undoubtedly followed the administration of calcium; it must not be regarded as a panacea, but as an adjuvant.

MEASLES.

REFERENCE has been made on many occasions in these pages to the work of Tunnicliff in regard to the green-producing coccus and measles. Work has been carried out with this and other organisms in regard to skin tests and divergent results have been reported. W. L. Bradford has investigated the question.¹ He has carried out intradermal tests with the Tunnicliff coccus, the *Streptococcus morbilli*, the Duval coccus and a stock culture of *Streptococcus viridans*. The results with the Tunnicliff coccus were typical of those with the other organisms. Of 96 children tested with the broth filtrate 43 had had measles, two reacted, 41 did not react; 53 had not had measles, ten reacted, 43 did not react. Of 109 tested with the antigen 69 had had measles, 17 reacted, 52 did not react; 40 had not had measles, 12 reacted, 28 did not react. Bradford concludes that there is no definite relationship between the immune and the non-immune as determined by these reactions. His suggestion that failure to react is due to temporary loss of skin sensitivity similar to that noted in tuberculin, needs careful consideration. He does not produce evidence that this loss of sensitivity is temporary.

¹ The Quarterly Journal of Medicine, April, 1929.

¹ The Journal of Infectious Diseases, May, 1929.

Abstracts from Current Medical Literature.

GYNECOLOGY.

Appendicitis and the Menstrual Cycle.

K. ROSENLOEGER (*Monatsschrift für Geburtshilfe und Gynäkologie*, December, 1928) refers to the influence which pathological conditions of the appendix exercise on the menstrual cycle. In 50% to 60% of all women the appendix tends to lie in the pelvic cavity and therefore is liable to be involved in tubal conditions. Appendicitis not only may cause menorrhagia, but is also associated with definite irregularity in the intervals between menses. In a short period the author had operated upon twenty-six patients with appendicitis; in eleven the appendicitis was associated with inflammatory conditions of the appendages and in fifteen the adnexa were normal. Among the latter seven were suffering from associated abnormal menstruation. Removal of the diseased uterine appendages alone did not prevent the continuation of hæmorrhage, while appendicectomy invariably resulted in cessation of abnormal menstruation. From this the author concludes that the inflamed appendix acts directly on the uterus by way of the vegetative nervous system. In confirmation he states that in 30% to 50% of women in the absence of any inflammatory lesion disturbances of intestinal function are noted during menstruation. The vegetative system is partly kept in tone by the endocrine glands, but in addition the reverse also holds true.

Temporary Sterilization.

S. FRANCESCO (*Monatsschrift für Geburtshilfe und Gynäkologie*, January, 1929) states that in the majority of cases in which pregnancy must be interrupted, the question of sterilization arises, especially with women who become repeatedly pregnant. In many instances temporary sterilization is preferable to permanent sterilization, especially if the cause in young women is likely to be cured. Radium and X ray methods of attaining this result are too uncertain. There is always the risk that it may be ineffective, while in some instances permanent sterility results. He advocates the method of Alfieri in which both operations are performed at one sitting. The abdomen is opened and the utero-vesical fold incised. After separation of the bladder the uterus is opened and the ovum removed with closure of the incision with catgut. The tubes are now ligated at the distal end and each tube is separated from its mesosalpinx in the outer third. The mobilized tubes are then sutured to the uterine incision and the whole covered with the flap of peritoneum. With this procedure the tube is left intact with the ostium away from the ovary and if future pregnancies are

desired, the tubes can be resutured to the mesosalpinx and brought into close contact with the ovaries. The operation has been done for thirty young women suffering from pulmonary tuberculosis with no ill effect. It has also been employed in non-pregnant women with retroflexion where there were indications for consequent sterilization.

Pituitary Hormone and the Genital System.

B. ZONDEK (*Klinische Wochenschrift*, January 22, 1929) details further investigations made by himself and Aschheim on the effect of the hormone of the anterior lobe of the pituitary gland ("Prolan") on the genital apparatus. In contrast to the ovarian hormone it is destroyed by heat, strong acids and alkalis, while it is insoluble in most solutions which dissolve lipoids. Previously biological tests have been confined to mice and rats, but the author has now used guinea-pigs. "Prolan," two to four cubic centimetres, equivalent to sixty to one hundred and twenty rat units, was injected for ten to fourteen days and caused considerable changes in the sexual organs. The uteri increased in size from thin tubes to the thickness of a finger, became livid blue in colour and gave the appearance of early pregnancy. The ovaries increased in size to that of a cherry stone and showed multiple hæmorrhagic areas with *corpora lutea*. Microscopical examination of the uterine mucosa revealed hypertrophy similar to the changes during pregnancy. The ovaries manifested luteinization with hindrance of ripening of the follicles. It has been difficult to determine the dosage of "Prolan," as rats and guinea-pigs are more sensitive than mice. As it is not a harmless substance, experiments with human beings have been made very cautiously. Eventually "Prolan" was concentrated so as to contain thirty rat units per cubic centimetre and sixty units were considered to be the minimum dose for human beings. The author has found that the injection of three cubic centimetres is followed by a definite increase in cholesterol in the blood. When it is injected intramuscularly, hyperæmia of the genital tract occurs as in pregnancy. The temperature of the pelvic organs varies from 0.5° to 1° C. higher than that taken in the axilla. Possibly this effect may prove of value in the treatment of inflammatory conditions of the pelvis. If "Prolan" be injected from the first day of menstruation and continued until the eighth day of the cycle, microscopical examination of the uterine mucosa reveals changes equivalent to those found usually from the fourteenth to sixteenth days. Changes in the ovaries have been observed, but the connexion with the injections has not yet been established. While in two instances milk secretion was provoked, this was not found to occur in the majority of cases. Ten patients with amenorrhœa due to glandular deficiency have been treated. In

two instances after daily injections for six days and following on an interval of a week, curettage revealed a mucosa with prolific glandular formation and commencing secretion. In five patients menstruation began from seventeen to thirty days after injections and recurred in three to four weeks. Further work remains to be done to determine the dosage and length of administration to insure a permanent rhythm. The author's results with oral administration are not satisfactory and may be due to the smallness of the dose or the destruction of the hormone in the stomach and intestines. While with the rat the oral route is successful, this is not so with mice, even in larger doses.

Hystero-Salpingography.

W. WILL (*Deutsche Medizinische Wochenschrift*, February 8, 1929) refers to the value of injections of "Iodipin" in the diagnosis of uterine and tubal disease. The contraindications to its use are heart disease, acute inflammatory disease of the uterus and appendages, especially gonorrhœa, uterine hæmorrhage and pregnancy. The indications may be summarized as follows: To control the results of vaginal examination, to test the patency of the tubes and to note the site of any obstruction, to establish the diagnosis of ectopic pregnancy, to assist in the diagnosis of submucous and interstitial myomata, to detect congenital anomalies of the uterus and in the differential diagnosis of tumours of the uterus and appendages. In the interpretation of the films the following points should be noted. In ectopic pregnancy there is obstruction in one tube with enlargement generally in the outer third, the opposite tube is patent, the uterine cavity is enlarged and no filling defect is present. In pregnancy there is a round or oval outline of the uterine cavity and a filling defect due to the presence of the ovum is found. In myoma there is asymmetry of the uterine cavity with filling defect, if the growth projects into the cavity. In malignant disease of the body of the uterus there is a very irregular outline in the region of the tumour. In ovarian cyst there is generally a normal picture of the uterus and tubes, although the latter may appear on one side to be drawn out over the cyst. The paper contains many pictures illustrating these conditions which were confirmed by operation.

Diagnosis of Ruptured Ectopic Pregnancy.

G. A. BAKSCHT (*Monatsschrift für Geburtshilfe und Gynäkologie*, January, 1929) discusses the various signs associated with ruptured extrauterine pregnancy. He considers that referred pain in the right shoulder due to the irritation of the phrenic nerve is a most important sign which has not been noted sufficiently by many observers. In a series of fifty cases this phrenic symptom was noted in ten instances and particularly in two

of these was most valuable in the differential diagnosis from tubal inflammation. These lesions were all tubal rupture, but the same sign was also noted in six cases of tubal abortion. No connexion between the amount of blood lost and the intensity of the shoulder pain could be established. It is apparently due not to any excessive loss of blood, but to the presence of blood under the diaphragm irritating the phrenic filaments in the parietal peritoneum. This explains the sudden pain felt when the patient lies in the dorsal position or on the right side. The author states that this sign is more constant than the colour changes around the umbilicus, anuria or strangury described by other observers.

Uterine Carcinoma in Infancy.

E. KEHRER AND H. O. NEUMANN (*Monatsschrift für Geburtshilfe und Gynäkologie*, January, 1929) report a case of carcinoma of the body of the uterus in an infant aged fifteen months. There was a history of bleeding from the vagina for several weeks and a mass could be felt arising from the pelvis. No exact preoperative diagnosis was possible. On opening the abdomen a tumour the size of a hen's egg was discovered with the fundus of the uterus perched on top of it. Panhysterectomy was performed during which the tumour burst and a quantity of foul smelling pus escaped. This gave a pure culture of *Bacillus coli*. Hydroureter was noted on both sides due to the pressure of the tumour. The baby recovered from the operation, but the whole abdominal wound broke down at the end of the first week, due mainly to the poor reparative power of the tissues at this age. General peritonitis supervened and the child died on the tenth day. They do not consider that radiotherapy was indicated in this instance partly because of the age, but more especially because of the size of the tumour and the presence of pyometra. An extensive bibliography of the literature of malignant disease in young children is appended.

OBSTETRICS.

Treatment of Syphilis During Pregnancy.

E. KLAFTEN (*Wiener Medizinische Wochenschrift*, January 26, 1929) has analysed the results of treatment of syphilitic mothers during pregnancy as well as of their young infants. Of those who had intensive treatment during pregnancy 89% were delivered of living children, 3% of the children being premature. This is compared with 71% (10% premature) for patients with inadequate treatment and 56% (20% premature) in respect to patients with no treatment. Regarding still-births the figures were nil for the first group, 8% when some treatment had been given and 24% among the untreated patients.

Similarly for neo-natal deaths in the first week the figures varied from 1.5% to 13.3%. Complications during the puerperium were noted in two-thirds of the untreated patients. The majority manifested a febrile reaction, persistent hæmorrhage and thrombosis of the lower extremities in a moderate proportion. The methods of treatment are discussed and by means of graphic illustrations the author shows the advantage of treatment both before and during pregnancy. Untreated patients yielded a foetal mortality of 83%, with mercury treatment alone 49%, with "Neosalvarsan" 12% and combined mercury or bismuth with "Neosalvarsan" 11%. The author does not believe that the administration of "Salvarsan" during pregnancy tends to cause premature labour. However, small doses should be given at first to avoid any ill effects. If any complications arise, the injections must be stopped until these have been dealt with. A course consists of twenty bismuth injections and five grammes of "Neosalvarsan," the initial dose being 0.15 grammes. If the patient be seen early in pregnancy, an interval of two to four weeks is followed by repetition of the bismuth. Deaths during pregnancy from "Salvarsan" are due either to the size of the dose or to the length of interval between doses. This should be at least one week. Intensive preventive treatment of the new-born infant is also indicated. Numerous diagrams of the details of the injections are given throughout the paper.

Relation of the Vaginal Flora to Puerperal Infections.

W. LÖBNER (*Monatsschrift für Geburtshilfe und Gynäkologie*, January, 1929) has investigated the puerperal histories of one hundred women in whom bacteriological examination of the vagina was carried out before labour. He has summarized the views held on the subject and shows that there is great difference of opinion in the matter. In 36% of his patients culture of the vaginal secretions showed only the bacillus of Döderlein, 43% had in addition organisms of potential virulence and 21% were deemed to be liable to severe puerperal infection. In only two instances did the temperature rise above 37.5° C.. He concludes from this that the degree of bacterial infection of the vagina during pregnancy has no effect on the character of the puerperium. The main cause of infection is the passage of organisms upwards from the vulva and perineum. The duration of labour especially in patients with premature rupture of the membranes, the extent of vaginal examinations, and any manipulations are very important factors. In all of his patients rectal examinations only were made, therefore his attitude towards the pathogenicity of the flora found in the vagina differs from that of other observers. Whether it can be maintained with a similar series of cases in which vaginal examinations were made is now under consideration. To

stimulate labour after premature rupture of the membranes he has employed injections of "Thymophysin" with excellent results, preventing undue operative interference and therefore lessening the risk of puerperal sepsis.

Uterine Souffle.

R. JOACHIMOVITS (*Monatsschrift für Geburtshilfe und Gynäkologie*, January, 1929) discusses the origin of the uterine souffle. He refers in detail to those cases in which the souffle presents a ringing or whistling tone. This is generally heard on the right side of the abdomen and is due to torsion of the uterus causing definite kinking of the uterine artery with vibrations in the vessel walls raising the pitch of the note like a reed pipe of an organ. While air in the intestines will raise the note, it will not cause these high pitched notes which he has heard in five instances. He notes that it is only in man and the apes that the souffle can be auscultated through the abdominal walls. In the large ruminants and mares it can be heard *per rectum*. With them a humming noise is heard on abdominal auscultation. In the early months of pregnancy the souffle is generally heard on one side only. When pregnancy is advanced, the maximum intensity is obtained on the same side as that on which the foetal heart is heard. From this fact useful information is obtained regarding the site of the placenta. During labour the souffle is diminished when uterine contractions are present and after the contraction has passed off the souffle remains indistinct, although the foetal heart tones can be easily detected. The uterine souffle can also be heard during the first few days of the puerperium.

Rupture of the Uterus.

H. E. SCHEYER (*Münchener Medizinische Wochenschrift*, March 1, 1929) is of the opinion that hysterectomy should not be considered as the only method of treating rupture of the uterus. He would reserve total extirpation for uteri in which the uterine arteries have been severed or in which hæmorrhage can be controlled only by this measure, also for all uteri in which the tear extended for some distance through the uterine walls, because in these circumstances subsequent union is likely to result in a weak scar. Rupture of the uterus without involvement of the uterine arteries may be treated by partial instead of total hysterectomy. Each rupture requires individual treatment after the abdomen is opened and the extent of the rupture is observed. In many instances the tear can be carefully sutured and walled off from the abdominal cavity. If the patient be in a state of collapse from loss of blood, removal of the uterus may be necessary to save time rather than any attempt at suture, although failure in such circumstances often occurs after either method.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE SECTION OF OBSTETRICS AND GYNÆCOLOGY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on November 21, 1928.

Diathermy in Gynæcology.

DR. F. A. MAGUIRE read a paper entitled: "The Application of Diathermy in Gynæcology" (see page 38).

Gynæcological Practice.

DR. REGINALD DAVIES read a paper entitled: "The Role of the Gynæcologist" (see page 40).

DR. H. K. PORTER after congratulating both contributors, said that he hoped Dr. Davies would publish his paper. As far as the younger members of the Section were concerned, and they formed a large number of those present, he thought it contained very much good advice. His advice as to when to operate was as good as that of the late Sir Herbert Maitland. In regard to Dr. Maguire's paper he thought that diathermy would be very helpful in a case he had seen a week previously. It was that of a woman of sixty-seven years of age who had worn a pessary for seventeen years without having it removed. The offensive discharge associated with such a state, it appeared, had been looked upon by the patient as only to be expected. She had used a douche once a week, had sought advice only when bleeding which had lasted seven days, had made its appearance. While it was quite possible that the condition found on examination was chronic inflammation, the fact that the patient had lost 15.7 kilograms (two and a half stone) in weight in the last six months and looked malignant, made the possibility of malignant disease quite a real one. If this condition proved to be malignant, the question of sharp spoon cautery was out of the question in view of the possibility of causing recto-vaginal fistula, while to attack such an extensive condition with radium would be very slow. In this case it appeared as if diathermy might be the best form of treatment and might be the means of giving the patient a year or so of comfortable existence by checking the hæmorrhage and the offensive discharge.

DR. CECIL COGHLAN stated that when he first saw the excellent results obtained with surgical diathermy in carcinomata of the tongue and pharynx, he had been impelled to make full inquiries in London and on the Continent as to its application in gynæcological conditions. Universally its use in carcinoma of the cervix had been condemned owing to the frequent damage to the ureters and bladder which had resulted from the nearness of these structures to the cervix uteri. Most gynæcologists considered that they had a far better weapon in radium. He considered that Dr. Maguire had put forward too rosy a case in favour of surgical diathermy. Medical diathermy, on the other hand, was often of great benefit to women suffering from chronic salpingitis and gave great relief to their pelvic distress.

DR. R. I. FURBER thought that the immediate results from diathermy in carcinoma seemed precisely similar to those obtained with radium. He agreed that diathermy was a valuable additional method of attack in certain cases and suggested that an effort should be made to indicate the circumstances that might make it preferable to radium. It was his opinion that radium was more likely to be curative than diathermy. He had seen no signs of sapræmia during the separation of growth destroyed either by radium or diathermy. He could not agree, however, with Dr. Maguire's contention that the heat produced during diathermy was sufficient to sterilize the affected tissue. He thought that the difficulties and dangers and contraindications to diathermy should be clearly defined.

DR. H. C. E. DONOVAN considered that Dr. Davies's paper should certainly be reported because of its conservatism

and its expression of his crystallized wisdom and experience. It would, if widely read, prevent many unnecessary operations. His advice as to indications for operation was excellent. It would be comforting to believe that most cases of puerperal sepsis arose from the passages of the patient and were not introduced by the attendants, but experience in Cæsarean sections negated this view. The morbidity and mortality after the Cæsarean operation rose in direct ratio to the number of vaginal examinations apart altogether from questions of previous attempts to deliver or the length of labour before operation. He considered that many infections were autogenous, the result being determined by the amount of trauma, but that in most cases the infection was carried up from the vulva to the upper parts of the passages by the examining finger or instruments. Dr. Maguire's paper was of great interest, especially his results in gonorrhœa and the overcoming of sepsis and improvement in general health in malignant disease of the cervix. This would render the radical operation easier and safer. He asked whether Dr. Maguire found any signs of absorption of the destroyed tissue causing toxæmia or sapræmia.

DR. BROWN CRAIG hoped that the wish of the majority of the meeting would prevail on Dr. Davies to allow his admirable address to be published. He thanked Dr. Maguire for providing members with such a lucid explanation of the application of diathermy to the needs of the gynæcologist. He had not formed such an entirely favourable opinion of the results of diathermy in some of the conditions as described by Dr. Maguire. In one case of urethral caruncle treated in the way Dr. Maguire had described recurrence had taken place within a few months. Since a second application of diathermy the patient had been under observation for fifteen months and he was still not pleased with the irritable condition of the urethral mucosa that existed. In the treatment of cervical erosions he had met with severe secondary hæmorrhage in two cases. On the whole he thought that a paper like the present one should not go forth without a warning that treatment by diathermy was not without its dangers.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Austin Hospital, Heidelberg, Victoria, on April 17, 1929. The meeting took the form of a series of clinical demonstrations by the members of the honorary staff.

Encephalitis Periaxialis Diffusa (Schilder's Disease).

DR. H. F. MAUDSLEY'S first patient was probably suffering from the rare condition known as *encephalitis periaxialis diffusa*. The patient was a boy, aged twelve years, who, though never robust, had seemed well until September, 1927, when he had complained of defective vision at school. Examination at that time had revealed some optic atrophy of the left disc. The right disc had appeared normal and there had been no other neurological abnormality. Intelligence had appeared slightly subnormal.

In January, 1928, he had complained of weakness of the right arm and leg, later also involving the left limbs. This condition had steadily progressed to an almost total spastic paralysis of all limbs and right facial paralysis of upper motor neurone type.

The boy's intelligence had also undergone an apparent deterioration. Owing to his physical condition, his mentality was difficult to gauge. His condition as demonstrated was one of widespread spastic paralysis, gross visual defect with optic atrophy of primary type in the left eye. There was slight nystagmus, no pupil changes were present, tendon reflexes were exaggerated, plantar reflexes were extensor in type, no ataxia and no posterior column involvement were found. He was unable to articulate and scarcely able to swallow. The cerebro-spinal fluid had been under increased pressure on December 15, 1928, but there was no increase of cells or globulin. The Wassermann test had failed to yield a reaction.

The family history contained nothing of importance; the father and mother were both alive and well. The patient was an only child.

Dr. Maudsley discussed the differential diagnosis from tumour, congenital syphilis, Friedreich's disease and disseminated sclerosis and concluded that the condition was probably one of Schilders' disease, characteristic cases of which were described in *Brain*, Part I, March, 1927, and in *Brain*, Part I, 1928.

Transverse Myelitis.

Dr. Maudsley's second patient was a married woman, aged thirty-seven years. She had been quite well until July, 1927, when, following some "eye trouble" in her oldest child, her own blood had been found to react strongly to the Wassermann test. Without any other preliminary medication a course of "Novarsenobillon" injections had been commenced, 0.35 gramme and 0.6 gramme being given intravenously. On the day following the second injection she had complained of headache, vomiting and weakness and two days later she had been admitted to the Melbourne Hospital with total flaccid paralysis and complete anaesthesia below the level of the fourth thoracic segment. Paralysis and anaesthesia to that level had remained ever since and sphincteric control was absent.

Treatment with "Novarsenobillon" and bismuth preparations at the Melbourne Hospital had failed to effect any improvement. She had subsequently developed sacral bedsores. X ray examination of the spine had disclosed no abnormality. Subsequent treatment at the Austin Hospital with mercury and a series of "Tryparsamide" injections had also failed to produce any improvement in the evidently permanent flaccid paraplegia.

The response to the Wassermann test on January 19, 1929, had still been strongly positive.

Dr. Maudsley discussed the question of whether the condition had been a Herxheimer reaction precipitated by "Novarsenobillon" administration or whether it had been merely a coincidental specific myelitis.

Encephalitis Lethargica.

Dr. Maudsley's third patient was a male, aged forty years, who had been admitted to the Melbourne Hospital on June 15, 1928, in a comatose state subsequent to several epileptiform seizures and had manifested at that time slight right facial paresis, Kernig's sign and muscular rigidity. He had gradually regained consciousness, though remaining somewhat confused. Lumbar puncture had been done and the cerebro-spinal fluid had been in all respects normal. The optic discs had been found blurred with adjacent hemorrhages which had gradually cleared up.

The Wassermann test had failed to yield a reaction and blood urea had been 29 milligrammes per 100 cubic centimetres. Pneumoventriculography had been performed, revealing a "filling defect in the right lateral ventricle." On the above findings, a diagnosis of cerebral tumour had been made and the patient had been admitted to the Austin Hospital on October 10, 1928. Since then, the chief changes noticed had been the development of tremor of the upper limbs, greater on the right side, emotional apathy and mild symptoms of Parkinsonism.

The latter, coupled with the further discovery that this man had had an attack of "sleeping sickness" in Warsaw in 1918, made it seem more probable that his illness had been a recrudescence of *encephalitis lethargica*.

Non-specific Ulcerative Colitis.

Dr. J. F. CHAMBERS showed a male patient, aged twenty-eight years, who had been ill for thirteen months with abdominal pain and the passage of frequent stools containing mucus, pus and blood. No specific organisms had been identified bacteriologically. Sigmoidoscopy had disclosed characteristic multiple ulceration in the lower part of the colon. The patient had been admitted to hospital six months after the onset, the local bowel condition having very considerably improved under special dietary and medicinal treatment including a course of antidyenteric serum given intravenously. The patient at this time, however, was not regaining weight or strength and had

become grossly anæmic with œdema of the legs. He was being presented largely to stress the fact that in adults as well as in children over-zealous adherence to a restricted dietary régime for lengthy periods might prejudice the general and in consequence the local state through undernutrition and vitamin deficiency.

The dietary had been increased in range and quantity with the addition of liver and fruit juices daily. Iron and arsenic had been administered, the patient slept out of doors and was subjected to ultra-violet light therapy. Local treatment was confined to a morning bowel wash out with "Albargin" and a nightly retention enema consisting of 120 cubic centimetres (four ounces) of a solution of bismuth subgallate in suspension.

Subjective and objective improvement had been slow but progressive, especially in regard to general health. Blood examination showed that the hæmoglobin content had increased from 40% to 80%, and the red cell count from 1,850,000 to 4,050,000 per cubic millimetre.

Chronic Osteomyelitis.

Mr. C. J. O. BROWN showed a female patient, aged thirty-nine years, who had been admitted to hospital on October 27, 1928. She had been quite well until three years previously when she had complained of pains in the back and in the legs and later in the arms. These had lasted for two or three months and had then improved. In April, 1928, a lump had appeared in the middle of the left clavicle and this had ulcerated just before the patient was admitted. There was no history of any previous illness of a serious nature and the family history was unimportant. The patient had one child eight years old and had had no miscarriages.

On admission the patient had complained of pains in the legs and in the left shoulder. The heart, lungs and nervous system had been normal. The left knee joint had been red, hot and swollen and pain had been present on movement, but very little tenderness had been noted. Old pigmented scars had been present on the right leg and pain and limitation of movement had been present in the left shoulder. Over the shaft of the left clavicle there had been an ulcer with a sloughy base, measuring 7.5 by 5.0 centimetres (three by two inches). The Wassermann test had yielded a strongly positive response. X ray examination of the upper part of the left humerus had revealed advanced chronic osteomyelitis with rarefaction and destruction. Lesser grades of the same change had been seen in the right humerus, right scapula, fourth and fifth lumbar vertebral bodies and the upper end of the left tibia. The medial end of the left clavicle had been completely destroyed and no signs of its presence could be seen in the film.

From November, 1928, to January, 1929, treatment had consisted of the administration of iodides and mercury by the mouth, eight injections of "Muthanol" and six injections of "Novarsenobillon." On January 12, 1929, skiagrams of the bones had revealed definite evidence of sclerosis and the patient had been discharged to attend the out-patient department at the Alfred Hospital, where the treatment had been continued. The patient had been readmitted to the Austin Hospital on April 1, 1929, because of thoracic pain which suggested the presence of some pulmonary lesion. This had evidently been some acute lesion which soon cleared up, as X ray examination failed to reveal any abnormality in the lungs.

At the time of the meeting the patient's general health was good. The condition of the bone lesions was steadily improving. X ray examination revealed a progressive return to normal structure of all the diseased bones with recalcification.

Syphilitic Osteitis.

Mr. BROWN also showed a male patient, aged thirty-eight years, who had been admitted on October 30, 1928. He had given a history of having contracted syphilis and gonorrhœa twenty years previously. He had been treated by a course of injections. Two and a half years before admission pain had occurred in the right lumbar region,

an abscess had formed and had been twice aspirated and the patient had been kept in bed for four months. During convalescence pleurisy had developed and the left side of the chest had been aspirated. The patient had gradually recovered and had been quite well and at work until three months before admission, when the abscess had recurred in the right lumbar region. This had twice been aspirated and had then been opened by incision.

On admission examination of the chest had revealed prolonged expiration and diminished resonance over the left side of the chest at the back. General examination otherwise had revealed no abnormality. The spine had been fixed at about the level of the twelfth thoracic vertebra and slight kyphosis had been present. The affected area had not been painful and no tenderness had been present on percussion. Pus had been discharging from an open transverse operation wound in the right mid-lumbar region; another scar had been present at the cranial border of the iliac crest. A strong reaction had been obtained to the Wassermann test. The patient had received a course of six doses of 0.6 gramme of "Nov-arsenobillon" and ten doses of "Muthanol" given intramuscularly. The lumbar wound had closed soon after admission and three months later the patient's spine had been clinically quiescent. Two months before the meeting acute periostitis had occurred over the subcutaneous aspect of the right tibia. From this area a small quantity of pus had been evacuated. It had yielded *Staphylococcus aureus* on culture. At the time of the meeting there was no pain or tenderness on percussion or on movement. The wound in the right leg was granulating, but not healing. There was posterior bowing at the level of the eleventh and twelfth thoracic vertebrae. Skiagrams revealed fusion of the eleventh and twelfth thoracic vertebral bodies with very little absorption of bone. The intervertebral discs between these two bodies had completely disappeared and in the antero-posterior films strong osteophytic bosses of bone could be seen on either side of the fused bones. X ray examination of the right tibia and fibula revealed a typical condition of syphilitic osteitis and periostitis and a central cavity in the shaft with the typical definition of a Brodie's abscess and no pronounced sclerosis of its walls.

Sarcoma of the Femur.

Mr. Brown's third patient was a woman, aged forty years, who had been admitted to hospital on January 31, 1929. She stated that she had known from childhood that she had "little lumps" on various long bones. Three years previously she had first noticed a swelling in the upper and anterior part of the left thigh. This had become enlarged at a moderately rapid rate, but had not been painful at first. She had undergone X ray treatment at the Melbourne Hospital in November, 1926.

On admission to the Austin Hospital she had been in good general condition and had been able to walk a little. A large smooth tumour had been present in the upper part of the left thigh and the adjacent part of the pelvis. It had been firm, but not hard nor tender. The skin overlying the tumour had been reddened and had contained dilated venules. Since admission the patient's condition had altered but little, the general health and ability to walk had been maintained. No reaction had been obtained with the Wassermann test. X ray examination revealed multiple exostoses growing from the ends of many of the long bones. At the upper end of the right femur there was a large osteogenic sarcoma with considerable new bone formation.

Tuberculosis of the Acetabulum.

DR. BELL FERGUSON showed a male patient, aged thirty-five years, a teacher, who had been admitted to hospital on June 20, 1928. About thirteen years prior to admission the patient had suffered from tuberculous arthritis of the left hip. Amputation had been carried out by disarticulation at the left hip joint in 1918. The wound had discharged continuously ever since. Sequestra had been removed from a sinus in 1926 and relief from pain had followed. The patient had complained of surface aches

and tenderness and many sinuses and a large denuded area had been present.

On admission X ray examination had revealed active tuberculous involvement of the empty acetabulum with sequestra. Ultra-violet light treatment had been started on July 7, 1928, with exposures of four minutes' duration at a thirty-five centimetre (fourteen inch) distance. General irradiation had been undertaken on July 28, 1928, with exposures lasting three minutes at a 90 centimetre (36 inch) distance. The granulating area had been protected. At the time of the meeting the patient had had exposures of sixteen minutes' duration to the skin of the thigh at a distance of forty centimetres (sixteen inches), exposures of one minute to the granulating surface at a distance of sixty centimetres (twenty-four inches), exposures two minutes' duration by means of a hand lamp to the depths of the posterior wound at a distance of fifteen centimetres (six inches). As a result of this treatment there were large areas of newly formed epithelium.

Spinal Tuberculosis.

Dr. Ferguson also showed a male patient, aged thirty-two years, a labourer, who gave a history of suffering from tuberculosis of the fourth and fifth lumbar vertebrae. He had had discharging inguinal sinuses for over twenty years. Healed scars were present over the sacrum. A lumbar abscess developed a few months before the patient's admission.

At the time of admission on November 28, 1928, the inguinal sinuses on both sides had been discharging freely. The pus had yielded a pure culture of *Streptococcus pyogenes*. A large subcutaneous abscess had been present over the sacrum. This abscess had broken down. Treatment by ultra-violet light was being carried out. At first (from November 29, 1928, to January 7, 1929) this had consisted of exposures for four minutes twice a week at a distance of thirty-five centimetres (fourteen inches). Since that time additional exposures lasting three minutes at a distance of ninety centimetres had been made to the affected area of the back. Both the local and general conditions were improving.

Tuberculosis of the Spine and Bedsores.

Dr. Ferguson's last patient was a girl, aged fourteen years, who had been admitted on November 7, 1928, with a diagnosis of tuberculosis of the spine followed by paraplegia, cystitis and bedsores. There was a history of two years' duration. Laminectomy had been performed two months before admission. Bedsores had been present over both greater trochanters, that on the left being fifteen centimetres (six inches) in length. A large sore had been present over the sacrum and also on both knees and both elbows. The patient had been nursed for a while in the supine position.

Ultra-violet radiation had been started with a dose of three minutes at a distance of ninety centimetres (thirty-six inches) to both knees, then four minutes at forty centimetres (sixteen inches) to the sores of the hips and sacrum. Under this treatment improvement had been rapid. Only the ulceration of the right buttock remained. Unfortunately about one week previously one of the sores on the knees had recurred, but already early healing of this was anticipated.

Ultra-violet Light and Fluorescence.

Dr. Ferguson also gave a demonstration of the action of ultra-violet light in producing fluorescence in various substances and referred to the practical applications of this phenomenon, which was becoming of medico-legal and industrial importance.

Optic Atrophy.

DR. MARK GARDNER showed two patients who were suffering from optic atrophy.

The first was a male, aged thirty-eight years, who had suffered from optic atrophy for nine years. He was suffering from optic atrophy of the primary type.

The second was a man, aged thirty-seven years, who was suffering from severe sequelæ to an attack of *encephalitis lethargica* six years previously. His optic atrophy was of the secondary type, following papilledema.

Shoulder Joint Movements.

DR. H. FLECKER gave a demonstration of the various movements of the shoulder joint as seen in a series of skiagrams taken in different positions of abduction, from the position of the arm at the side of the body to that of the arm held vertically over the shoulder joint. These indicated clearly that in all movements of abduction and adduction the humerus rotated on the scapula, such rotation being accompanied by a lesser rotation of the scapula on its long axis. The clavicle was also raised to some extent. There was no obstruction in any position to the greater tubercle of the humerus by the acromion process.

Sarcoma of the Tonsil.

DR. H. FLECKER showed a male patient, aged thirty-two years, who had been sent on March 6, 1923, by Dr. R. A. Stirling with a diagnosis of sarcoma of the tonsil and involvement of the glands in the neck of fourteen months' duration. At that time the patient had had a large mass filling the fauces and interfering considerably with deglutition and speech. A specimen unfortunately had not been removed for microscopical examination.

A single therapeutic exposure to X rays had been made and this had not been repeated since. A fortnight after the treatment the patient had reported for inspection and the great bulk of the tumour masses had disappeared. It had been stated that diminution in size had been noted two days after treatment. The normal voice had been completely restored. Although the patient had been off duty since October, 1922, five months before treatment was started, he had resumed his occupation as an electrician in May, 1923, and had been regularly employed ever since. All that remained to indicate the original condition was a small foramen in the anterior pillar of the fauces, probably caused by pressure of the original growth.

Epithelioma of Lip.

Dr. Flecker's last patient was a man, aged eighty-two years, who had come complaining that for four years there had been a scab on the lower lip and during the previous three months this had greatly enlarged. He had always smoked heavily, but denied venereal infection.

On admission on March 28, 1928, there had been an epithelioma occupying the whole of the middle third of the lower lip. The surface had not been fungating and the edge had tended to eversion over the indurated skin.

On May 17, 1928, deep X ray treatment had been given, consisting of an exposure of eighteen minutes' radiation at five centimetres distance with two hundred kilovolts screened with one millimetre of copper and one millimetre of aluminium. On July 26, 1928, this treatment had been repeated.

On September 24, 1928, the epitheliomatous mass had occupied the full length of the lower lip and the surface had been fungating. The lower edge had been everted and over half the area of skin below the mouth had been involved. One submaxillary gland had been enlarged.

On October 15, 1928, twenty milligrammes of radium had been applied for seventy-two hours on a plaster mould as two needles each of ten milligrammes. Following this the tumour mass had disappeared within six weeks and soon afterwards the surface had healed. The gland had disappeared.

On January 4, 1929, a gland in the left submaxillary region had been hard and enlarged. The teeth had been badly infected, but up to this time dental treatment had been refused. These had subsequently been extracted, but the glandular enlargement persisted.

On February 11, 1929, radium needles had been applied to the gland; ten milligrammes had been inserted into the centre and five two milligramme needles had been

applied for thirty-six hours. The tumour had soon disappeared.

At the time of the meeting the appearance of the lip presented a very good scarring and no sign of neoplastic infiltration. An indurated mass, the remains of the gland treated, could still be palpated adhering to the inner surface of the body of the mandible.

NOMINATIONS AND ELECTIONS.

THE undermentioned has been nominated for election as a member of the New South Wales Branch of the British Medical Association:

Kennett, George Hedley, M.B., Ch.M., 1925 (Univ. Sydney), L.R.C.P. (London), M.R.C.S. (England), 1927, 193, Bourke Street, Goulburn.

THE undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Bettington, Reginald Henshall Brindley, B.M., B.Ch., 1926 (Univ. Oxford), 8, Greenoaks Avenue, Darling Point.

Bohrsmann, Otto, M.B., C.M., 1893 (Univ. Aberdeen), 185, Elizabeth Street, Sydney.

Lorger, Albert Eric, M.B., Ch.M., 1926 (Univ. Sydney), Parkes.

Morgan, Milton Barden, M.B., B.S., 1928 (Univ. Sydney), 33, Findlay Avenue, Roseville.

Rundle, Reeves Palmerston, M.B., B.S., 1917 (Univ. Melbourne), Corner Liverpool Road and Bruce Street, Summer Hill.

Steele, Frederick George, M.B., B.S., 1927 (Univ. Sydney), Coast Hospital, Little Bay.

Stephen, Robert Longfield, M.B., Ch.M., 1924 (Univ. Sydney), 4, Rycroft Hall, Shellcove Road, Neutral Bay.

Walker, Addie, M.B., Ch.M., 1926 (Univ. Sydney), Rose Bay.

VICTORIA.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

Tymms, Eric Mortimer, M.B., B.S., 1928 (Univ. Melbourne), Melbourne Hospital.

Cooper, Rupert William, M.B., B.S., 1928 (Univ. Melbourne), Melbourne Hospital.

Medical Societies.

THE CLINICAL SOCIETY OF THE HOSPITAL FOR SICK CHILDREN.

A MEETING OF THE CLINICAL SOCIETY OF THE HOSPITAL FOR SICK CHILDREN, BRISBANE, was held on May 23, 1929, Dr. E. O. MARKS in the chair.

Follicular Conjunctivitis.

DR. E. O. MARKS showed a patient who was suffering from severe follicular conjunctivitis. The child came from Brisbane and had never complained, but had been noticed by the school inspector. Dr. Marks said that this condition was very common in Brisbane and that the patients always recovered; there were no harmful results. The difficulty lay in distinguishing the condition from trachoma and the question arose whether the children should be kept from school.

Post-encephalitic Condition.

DR. H. MATHEWSON showed a child, aged two years, who had been admitted on March 20, 1929, with a history of having fallen 1·2 metres (four feet) one month previously; the child had not been well since, having lost its appetite and being nervous and irritable.

On admission the child had been drowsy. The tongue and throat had been clear except for exudate over the tonsils. There had been nothing abnormal in the systems. It had been noted that the child walked with a slight dragging gait which might have been due to the ten days in bed. There had been no paralysis and the reflexes had been normal.

Nine days previously the child had been feverish, had vomited and had complained of headache, pain in the left eye and in the abdomen. The fever had continued for one week and convulsions had threatened and the child had been cross-eyed for a time. The child had had discharging ears since it was eight months old. It had been kept in hospital for fourteen days and examinations had been made for diagnosis between lead, encephalitis, intracranial tumour, intracranial abscess. Lumbar puncture had revealed no increase in pressure, sugar present in the fluid, absence of globulin, no increase in cells, no organisms. Culture had been sterile. The Wassermann test had yielded no reaction in either blood or spinal fluid. The urine contained no lead.

An X ray examination of the skull and of the hips and pelvis had revealed no abnormality. The blood manifested no punctate basophilia and no leucocytosis. The film was normal.

The child had been rather quiet and had been sent home with the condition undiagnosed, though probably it was suffering from encephalitis.

Since then she had been seen by Dr. Gordon Holmes who said he had noticed her extreme restlessness. The child was not very troublesome, was restless and fretful, had no appetite, taking only one glass of milk in three days, and did not sleep. At times she had had attacks of semi-consciousness in which the eyes were dilated very much, and there was no corneal reflex, the child was twisting and turning, kicking her legs, moving her body and head and was very hard to keep in bed. He had tried sedatives, bromide, 0·18 gramme (three grains), and chloral, 0·15 gramme (two and a half grains) as occasion arose. This had gradually become necessary every four hours; the effect had been slight and had then worn off. He had then tried "Luminal" in 0·03 gramme (half grain) doses in a mixture of the sodium salt and the child had been quieter, but would not sleep. Then he had tried tincture of opium, 0·06 mil (one minim), increased to 0·18 mil, then 0·48 mil (eight minims) every four hours and this had not had much effect.

Lumbar puncture had been done and she had quietened down and next day had seemed normal. Another lumbar puncture had been done and she had been quiet for four days and then had become restless again. That day she had had 0·96 mil (sixteen minims) of tincture of opium and was asleep.

The child was able to walk about in the intervals.

DR. S. F. McDONALD considered that the child was suffering from a post-encephalitic condition. These children suffered from an inversion of the sleeping hours and were generally noisy at night.

Ichthyosis.

DR. S. F. McDONALD showed a boy, aged ten years, who was suffering from ichthyosis. His skin had always been affected by this condition. There were no other members of the family affected. The face was not affected. Big black scales came off the body. It was said that ichthyosis did not affect the palms of the hands or soles of the feet or face, but this child had the palms and soles affected. The diagnosis then might be keratotic dermatitis.

Endocarditis.

DR. McDONALD also showed a patient, aged seven and a half years, who had first been seen at the Hospital for Sick Children on May 25, 1927, with a condition regarded as being endocarditis. Whilst in hospital, he had become

jaundiced. He had had high fever and changing heart murmurs. The liver and the spleen had been enlarged. Free fluid had been present in the abdomen. There had evidently been an acute infection of the heart going on to failure and the prognosis had been bad. Iodides had been tried with no result. Arsenic had been tried, the result had been striking. The abdomen had been tapped twice. The response to the Wassermann test had been "++++".

Since then the child had been in hospital on three occasions, each time with a history somewhat as follows. The child became very feverish, a blotchy rash appeared on the body. In spite of great variations in temperature the child looked very well and there was nothing to account for it. The Wassermann test still yielded a "++++" response.

"Neo-kharsivan" had been given and after two doses the temperature had come down. Arsenic was contra-indicated only in gummata of the brain.

Poliomyelitis.

DR. McDONALD'S third patient was a girl, aged eight years, who had been in hospital one month. She had been admitted with a history of being perfectly well one month before. She had gone to bed quite well. Next day at school she had had slight difficulty in running and had complained. She had become unable to walk and this had increased. There had been no rise in temperature. One week after the attack she had vomited and had had diarrhoea. She had had control of urine and faeces. A divergent squint had been present. There had been paralysis and foot drop of both feet, the peronei muscles had been weak in the left leg. The quadriceps and glutei had been affected. The abdominal reflexes had been active. The arms had been unaffected. The blood picture of the red and white cells had been normal. She had been considered as suffering from poliomyelitis, but the response to the Wassermann test had been "++" and the diagnosis had appeared to lie between a poliomyelitis with unusual onset and a syphilitic paralysis.

There had been no sensory disturbance. The child was having extensive antisyphilitic treatment.

The consensus of opinion was that the condition was anterior poliomyelitis with an unusual onset.

Abnormal Throat Condition.

DR. ARTHUR MURPHY showed a patient, aged five years, who had been operated on two days previously. The child had had the tonsils guillotined some time before and had been brought back because of a doubtful tonsil on the right side. The lower pole had been dissected out at operation, but under this and extending down there had been something else with a pedicle. Dr. Murphy had been about to snare this mass, but it had started to come away piecemeal and after a lot of bleeding had been removed. He had thought it might be an adenoma, but the microscopic examination had shown it to be a salivary gland.

On examination of the throat nothing abnormal could be seen and Dr. Murphy thought it was probably part of the parotid gland.

Osteomyelitis of the Mastoid.

DR. MURPHY'S second patient was one year and nine months of age. There was a history of a swelling in the mastoid region while the child was in the country. The doctor there had made two big incisions and had counter-drained them and sent the child down to Brisbane. The child had arrived with a fissure coming through and a big excavated purulent mastoid right back to the posterior scar. It had been treated as an open wound; the bone underneath had necrosed and there was an osteomyelitis extending to the occipital bone, the *dura mater* being free underneath. So far the child had been lucky enough to get no deep-seated infection. The whole area uncovered was 2·5 by 3·75 centimetres (one by one and a half inches). The outlook was considered good and there were probably still more small fragments to come away.

Injury to the Ethmoid.

DR. MURPHY also showed a male patient, aged four years, with a prolapsed right eye. This patient had been shown

before, when he had given a history of a piece of wire being run in at the inner side of the right eye. Some time after the wound had healed, it had been noticed that the eye was swelling. This had gone down and there had been a running from the nose. The condition had appeared to be extraocular.

The child had gone home and then had been seen privately by Dr. Graham Brown who had cut into the swelling at the side and also into the mastoid and had found the ethmoids definitely purulent. The wound had healed and the child had seemed better. Later the child had come to the hospital.

X ray examination had revealed absorption of the posterior orbital wall, including the lesser wing of the sphenoid and the hollow in the *sella turcica*.

With discharge from the nose the proptosis of the eye had definitely decreased. Evidently the membrane of the ethmoid had been carried into the cranial cavity and had formed a purulent mucous cyst which still had an outlet. The intention was to clear the thing out by the same route, but before it would be ready to be done, the eye would have to undergo further proptosis. The eye itself was normal and there was no bruit present.

Foreign Bodies in the Respiratory Passages.

Dr. Murphy showed specimens recovered from different places of the respiratory tract. A Basses burr had been recovered from a child who had been ill with croup in the country for five days. It had become feverish and was noticed to be passing grass. The voice had not been good and there had been weeping of the lung. The burr had been recovered from below the cords. A button had been recovered from the level of the crico-pharyngeus muscle.

Syphilis and Jaundice.

DR. GAVIN CAMERON showed a patient who had been admitted on May 18, 1929, with a history for five days of headache, feverishness, drowsiness and loss of appetite with occasional vomiting.

She had complained of pain in the stomach and had been pale and listless. The bowels had been open every day and the urine had been dark and passed frequently.

The child had been seen in the out-patient department in July, 1928, and it had been noted that she was always sick and miserable with headache and abdominal pain and no appetite. She had not been constipated, but was anæmic and had been given potassium iodide and magnesium sulphate and had improved. There had been no basophilia in the blood film.

The tonsils and adenoids had been removed, but there had been no improvement. The colour had changed in the last few days. The temperature was 37.2° C. (99° F.) and there was a yellow tinge to the skin and the sclerotics were jaundiced. There was nothing abnormal in the heart or lungs. The abdominal pain was referred to the umbilicus and was increased on pressure. The condition had been considered a catarrhal jaundice.

The Van den Bergh test had given an immediate direct reaction. The response to the Wassermann test was "++++." A blood count yielded the following information:

Red cells, per cubic millimetre	4,800,000
Hæmoglobin value	78%
Colour index	0.8
Leucocytes, per cubic millimetre	4,900
Neutrophile cells	28%
Lymphocytes	63%
Large mononuclear cells	5%
Eosinophile cells	4%

The urine had been normal on microscopical examination.

Dr. Cameron asked whether the condition was one of congenital syphilis with a gratuitous jaundice. Had there been jaundice at birth and during the attacks of biliousness mentioned by the mother?

There were no stigmata of congenital syphilis, but the consensus of opinion was that the condition was due to syphilitic causes.

Tuberculous Dermatitis.

DR. C. TUCKER showed a boy with a tuberculous skin condition. He had been shown before. The child had now been in hospital more than two years. The original ulcer on the forearm had healed and the condition had moved to the other limbs. Tubercle bacilli had been discovered and since then in turn parts had healed and fresh areas had broken down.

Dermatitis.

DR. K. B. FRASER showed a child who had been shown on November 28, 1928, with a skin condition which was not considered tuberculous. Heliotherapy had been advised and regulation of diet, but the lesions were spreading and fresh ones were appearing. No tubercle bacilli had been discovered. The child had been ten months in hospital and there was no improvement.

THE COLLEGE OF SURGEONS OF AUSTRALASIA.

THE following is a list of office-bearers of the College of Surgeons of Australasia for the year 1929.

President: Sir Henry Newland.

Vice-Presidents: Sir Alexander MacCormick, Sir Louis Barnett.

Director-General: Dr. R. Hamilton Russell.

Members of the Council: Dr. E. D. Ahern, Dr. R. Gordon Craig, Dr. H. B. Devine, Dr. A. L. Kenny, Dr. F. P. Sandes, Dr. Ralph Worrall.

Honorary Secretary and Treasurer: Dr. Alan Newton.

Members of the Executive Committee: Sir Henry Newland, Dr. H. B. Devine, Dr. A. L. Kenny, Dr. Alan Newton, Dr. R. Hamilton Russell.

Members of the Credentials Committee:

Sir Charles Clubbe, Dr. Gordon Craig, Dr. C. E. Corlette (New South Wales).

Sir James Barrett, Dr. R. Hamilton Russell, Dr. R. Morrison (Victoria). During Dr. Morrison's absence Dr. A. L. Kenny will act.

Sir Henry Newland, Dr. Anstey Giles (South Australia).

Dr. E. S. Jackson, Dr. J. Lockhart Gibson (Queensland).

Dr. F. A. Hadley, Dr. W. Ambrose (Western Australia).

Dr. D. H. Lines, Dr. J. Ramsay (Tasmania).

Sir Louis Barnett, Sir Lindo Ferguson, Sir Carrick Robertson (New Zealand).

Secretaries of Committee in States and the Dominion: Dr. R. B. Wade (New South Wales), Dr. Fay Maclure (Victoria), Dr. H. M. Jay (South Australia), Dr. G. A. C. Douglas (Queensland), Dr. F. A. Hadley (Western Australia), Dr. D. H. Lines (Tasmania), Sir Donald McGavin (New Zealand).

The address of the College of Surgeons of Australasia is 6, Collins Street, Melbourne, C.1. All communications should be sent to this address.

THE Executive Committee of the College of Surgeons of Australasia announces that the following new regulation has been adopted:

In the form of application for Fellowship the three nominators and the five references required must be distinct and separate persons; eight in all.

It is further announced that a meeting of Fellows of the College resident in South Australia will be held on August 13, 1929. A programme of clinical work has been arranged and Professor H. H. Woollard has consented to deliver a lecture. All Fellows of the College are invited to attend the meeting.

Correspondence.

WORKERS' COMPENSATION ACT.

SIR: From conversation with various professional brethren (and from one's own unfortunate personal experiences) it is very evident that there is a strong undercurrent of dissatisfaction not only with insurance companies and their managements, but also with many of the medical men associated with them in workers' compensation cases.

It seems to be a very common experience to find that one's patients, on going to the insurance company's offices for their pay, are told that unless they see the insurance doctor they cannot obtain any money. It is also regrettably common to find that insurance company doctors, knowing full well that the man is under treatment, suggest and even perform other treatment without in the slightest degree consulting the doctor in attendance. Most of these insurance practitioners seem to have rooms in Macquarie Street and it is apparently beneath their dignity to consult with general practitioners on any particular line of action.

If it would not take up too much of your valuable space, I would like to mention briefly two cases to which I have given attendance in the past month.

(i) An elderly man with muscle injury. After attending this man for a little time, I was of the opinion that he needed the services of an orthopaedic specialist. On his way to the specialist he called in at the insurance company, the chief clerk of which told him that he would not be permitted to see the distinguished medical man I had selected for him, but that he must instead consult their specialist. The patient saw the medical man concerned who sent him to a masseur for diagnosis who after much painful manipulation offered certain opinions. The first I knew about the matter was the return of the man to me, complaining of greatly increased pain. I rang the insurance doctor who alleged he did not know that the man was under treatment (despite the fact that the patient subsequently informed me that he mentioned the matter on two occasions). I again sent him to my original specialist who entirely disagreed with the views of the masseur and put the patient on to certain treatment which immediately relieved him.

(ii) A patient who had a crushed toe. The big toe nail was injured, but, as the foot was improving and the nail was causing no interference, I left it *in situ*. The patient went to the insurance company for his money and was told that before drawing it, he would have to see the "doctor upstairs." The "doctor upstairs" pulled off the nail (naturally without anaesthetic, local or otherwise) and the man reported to me a few hours later with the toe still bleeding rather furiously. Whether through faulty antiseptics of the insurance doctor or mere mischance the toe developed sepsis and I saw the man every day for some time afterwards at the expense of the insurance company. A few days ago the man on calling for more money was instructed to see the insurance doctor again, which gentleman marked him (without consulting me) fit for work in a day or two. The man reported to me in a couple of days' time with a very inflamed and sore toe and is still off duty.

May I ask, Sir, through your columns if it is still correct ethically to inform our colleagues when called in to attend their patients? Is it still ethical not to advise treatment to such people without consultation? Is there the slightest reason why insurance doctors should be exempt from the ordinary decencies of the profession? Might it not be a good thing if fellow practitioners who suffer these things from the hands of insurance doctors lodged official complaints about it to our Association?

The Insurance Act gives the employer the right to have a medical man see the injured worker in consultation with his own doctor. Why should we allow them to go outside that right? When the famous Schedule "D" was brought in some time ago, we were told that it was to expedite

insurance cases and the medical attendant would receive prompt payment for his services. I frequently wait three and four months and longer.

Might I suggest that it is high time we reviewed the workings of the Insurance Act and the men associated with it. It is only fair to add that there are a few companies with whom it is a pleasure to work; but the others—

It would be interesting to hear other views on the subject.

Yours, etc.,

"GENERAL PRACTITIONER."

HÆMORRHAGE FROM A GRAAFIAN FOLLICLE.

SIR: It is not often that hæmorrhage from a Graafian follicle threatens life, so that a description of the following case may be of interest to record.

Mrs. E., aged twenty-eight years, was seized with sudden pain on May 13. When I saw her, she had pains in the lower abdomen, looked a little pale and had vomited. Her pulse rate was 110, the temperature normal. There was no hæmorrhage *per vaginam*.

She had one child, aged four years, had not had any miscarriages and her regular period had occurred eight days previously. Next morning she was decidedly worse, was blanched, felt cold and still continued to vomit and have pain. The feeble pulse rate was 140. The condition suggested internal hæmorrhage. She was removed to Dorriggo Private Hospital for operation.

With the kind assistance of Dr. Hewitt the abdomen was opened by subumbilical medial incision and was found full of clots and fluid blood. As much clot was rapidly removed as was possible. Blood was oozing from the right ovary and it was obviously the cause of the hæmorrhage. It was excised. The tubes were normal.

A cyst in the left ovary, size of a hen egg, ruptured during the manipulations, its stump was rapidly oversewn.

The abdomen was closed in the usual way and the patient returned to bed in rather a critical condition. She rallied well to antishock treatment with saline, pituitrin and small doses of morphine and made a good recovery, the wound healing by first intention.

In this isolated district I have not had the opportunity of consulting records, but I should think the condition a comparatively rare one.

Yours, etc.,

E. R. ROSEBY, M.B., Ch.M.

Dorriggo, New South Wales.

May 28, 1929.

A DISCLAIMER.

SIR: It has been brought to my notice that my name has appeared in one of the Victorian football reviews as treating one of their members.

I wish it to be quite clearly understood that such an appearance was without my sanction and knowledge.

Yours, etc.,

V. P. MONDON.

Albert Park, Melbourne.

May 18, 1929.

BLOOD TRANSFUSION.

SIR: It occurred to me that I might report a method which I have not noticed in use previously, for obtaining blood from persons suffering with "high blood pressure."

The usual rubber tourniquet is used on the upper arm. The skin of the back of the hand is sterilized and wrapped in sterile dressings. A small bowl of liquid paraffin is

prepared by the nurse and a very sharp scalpel, also local anæsthetic can be provided, if desired.

Operation: The surgeon swabs an area over the selected vein or preferably at the junction of two veins on the back of the hand. The scalpel is dipped in the liquid paraffin and a small incision made, preferably with one sweep of the knife, through the wall of the vein. The blood flows freely at once and if it shows any sign of becoming slower, the edges of the wound are gently touched with a scalpel dipped in liquid paraffin. When the desired amount of blood has been obtained (I have obtained forty-two ounces in forty-five minutes), the wound is closed by a suture or a "Michel's clip" and dressings applied.

I have used this method in treating two cases of enteric fever by blood (whole) transfusion. These two cases had reached the sixth week and were showing no sign of improvement. I obtained the blood by the above method from the donors, using as little liquid paraffin as possible, and allowed the blood to flow into citrate solution. The usual precautions against embolus *et cetera* were taken and in both cases recovery appeared to date from the transfusion.

I trust these few notes may be of some interest to your readers, as I consider the method easier and less painful than the old needle method.

Yours, etc.,

A. TENNANT CHAPPLE.

9, Margaret Street,
Strathfield,
May 29, 1929.

DIPHTHERIA.

SIR: I have had approximately eighty diphtheria carriers through my hands in the last five weeks. Swabs were taken every two days, but as no reply could be received for three days to each swabbing, a fourth culture tube was on its way to the laboratory before the reply to the third was received. In twelve cases after three negative results were received and the patient had been sent home, the result came back positive for the fourth swab. An amendment of the law to make four negatives compulsory would obviously be sound.

Yours, etc.,

A. H. POWELL.

Toogoolawah,
Queensland,
June 11, 1929.

INTRATRACHEAL ANÆSTHESIA.

SIR: I read with interest the description by Dr. Geoffrey Kaye of his simply constructed intratracheal anæsthetic apparatus and would like to compliment him on having produced a very portable piece of apparatus.

Having designed and built several sets of intratracheal anæsthetic apparatus and having once made the same mistake myself, I would like to point out that the blow-off should be placed in a position on the apparatus where pure air is allowed to escape. If the blow-off is placed as in Dr. Kaye's design, the theatre tends to become vitiated and excess of ether is used and any time the apparatus is used with a motor pump of average power, this is liable to be more than a nuisance.

If any practitioner would like to build an intratracheal apparatus, I would suggest that it would be just as easy and probably not more expensive to build a practically all metal one, without a number of rubber tubes which are found to be perished at inconvenient times.

In practice a tank is more suitable for etherizing the air than a bottle, for in the former the strength of vapour does not vary much whether the tank is empty or full, whilst with the latter the concentration of vapour tends to diminish rapidly as the bottle empties.

I propose, Sir, to forward in a day or two (for publication or not, as you decide) details of an intratracheal apparatus which is practically all metal, which can be built by any medical man who is handy with a soldering iron, for about £3, or which could be built for one by any mechanic for only slightly more. Further, it embodies all the safety devices provided on any other machine.

Yours, etc.,

A. B. K. WATKINS.

Commercial Bank Chambers,
Bolton Street,
Newcastle,
May 29, 1929.

COLLOSOL ARGENTUM: SOME SUGGESTIONS.

SIR: The possible uses of collosol *argentum* appealed to me when I read a report prepared for *The British Medical Journal* by Sir Malcolm Morris, upon the various collosol preparations of the Crooke's Laboratory. That report was, I think, published in *The British Medical Journal* in 1913.

As a mouth wash in gingivitis or other inflammatory conditions in or about the oral cavity it is one of the best drugs I have used and has the great advantage over many elaborate preparations that it is non-irritating and non-toxic. As a mouth wash or gargle it should be used diluted with three parts of water. As an application to ulcerated conditions of the mucous membrane it may be used pure on a pledget of wool left in contact with the ulcer for two or three minutes or more and repeated frequently. This I sometimes precede by a swab of peroxide of hydrogen to clean the surface.

Few of our medical works pay any special attention to treatment of the severe itching frequently met with in chicken pox (varicella) beyond saying perhaps "apply soothing lotions." At times the itching is almost intolerable. One girl of seventeen told me that night after night she got "not one wink of sleep, despite going over and over all the poetry and all the verses of scripture she knew." Even had she been as one of Shaw's heroines who "said all the oaths she knew and all the oaths she did not know she knew" one might still have sympathized with her. Here is one of the greatest uses of collosol *argentum*. Let it be used freely as a gargle in proportion of one to three water and externally swab it pure and freely over all affected surfaces. The relief it gives is extraordinary and the prospect of necessary sleep a godsend.

In measles likewise it will give great relief.

In chilblains a pledget of wool or lint soaked in the drug may be left in contact with the affected part to relieve the itching.

On three occasions I have seen urticaria of unknown origin rapidly relieved by the internal administration of a teaspoonful given on an empty stomach at bedtime.

Yours, etc.,

VAL. MACDONALD,
L.R.C.P. et S. (Edin.).
D.D.S. (Univ. of Penn.).

Undated.

HERPES ZOSTER AND VARICELLA.

SIR: In *THE MEDICAL JOURNAL OF AUSTRALIA* of June 1, 1929, under the heading of "Herpes Zoster and Varicella," Dr. Stewart describes an interesting case in connexion with this subject.

I think this matter of the connexion of *herpes zoster* and *varicella* was first brought forward by a physician in South Africa many years ago. Since that time a large amount of correspondence has appeared in various medical journals all over the world. The question which arises in my mind is, are all these cases of concurrent *herpes zoster* and *varicella* reported at various times really the coincidental appearance of these diseases in the same patient at the same time?

In THE MEDICAL JOURNAL OF AUSTRALIA of February 9, 1924, I contributed a letter upon this subject and described two cases which came under my notice in returned soldiers at the Caulfield Military Hospital. The *herpes zoster* conditions in these patients were indisputable. In each of the cases about twenty-four hours after the appearance of the *zoster* a generalized vesicular eruption appeared. I could not fit this generalized eruption in with varicella for reasons mentioned in my letter. I then obtained the services of Dr. Johnson, of the Board of Health, who had had great experience in varicella and variola. I also got the late Dr. A. Lewers who had also had much experience in these cases, to see the patients with me. They agreed with me that the patients were suffering from *herpes zoster* and a generalized herpetic eruption which was not varicella. If one examines *zoster* cases carefully, aberrant vesicles varying in number and occurring at quite distant parts from the *zoster* eruption are sometimes to be found. When we had an outbreak of epidemic cerebro-spinal meningitis at one of the military hospitals, it was not uncommon to see a patient with *herpes zoster* in more than one place at the same time. I was asked to see a patient at the base hospital with double frontal *zoster* and I suggested that the patient be examined for the meningococcus. This proved to be present.

I do not know whether *zoster* has been noticed in patients during outbreaks of variola, but it would be an interesting point in connexion with the subject if they occur in such conditions.

Since writing this note, I find in Darier's "Diseases of the Skin," 1922, translated by Politzer, of New York, the following remarks by Politzer: "During an outbreak of small pox in New York in 1900 I observed several cases of generalized *herpes zoster* in which the eruption was so extensive as to require careful examination before varicella could be excluded." My cases occurred at the Caulfield Hospital in 1918, but I did not report them till 1924.

Columbini, quoted by Darier, reported a case of generalized zona in 1893. I am inclined to believe that zona has a syphilitic origin more often than is suspected.

Yours, etc.,

HERMAN LAWRENCE.

63, Collins Street,
Melbourne.
Undated.

Congress Notes.

AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION).

FURTHER information concerning the third session of the Australasian Medical Congress (British Medical Association) has been received from the Executive Committee.

Section of Ophthalmology.

The Honorary Secretary of the Section of Ophthalmology, Dr. W. M. C. Macdonald, 235, Macquarie Street, Sydney, reports that although a definite programme has not yet been finalized, the following arrangements have been made.

Tuesday, September 3, 1929.

2 p.m.—President's address.

Wednesday, September 4, 1929.

9 a.m.—Sectional Meeting.

11 a.m.—Combined meeting with the Section of Neurology and Psychiatry at which the subject of the value of ocular signs in neurological diagnosis will be discussed.

2 p.m.—The Section of Naval, Military and Air Force Medicine and Surgery will hold a meeting to discuss gas in modern warfare, particularly in regard to the civilian population. It is proposed that arrangements should be made to enable the members of the Section of Ophthalmology to attend this meeting.

Thursday, September 5, 1929.

9 a.m.—Sectional meeting.

2 p.m.—Sectional meeting.

The members of the Section of Ophthalmology resident in Sydney intend to arrange a dinner for the visiting ophthalmologists during the week. The President of the section is Dr. D. D. Paton, of Perth.

Accommodation in Sydney.

Members are reminded that it will be wise for them to reserve accommodation in Sydney as early as possible for their own comfort and convenience. A list of the hotels and boarding houses in and around Sydney is supplied to every member on receipt of his application for membership of Congress. The list was published in THE MEDICAL JOURNAL OF AUSTRALIA of June 15, 1929, page 819.

Entertainments.

In addition to many private entertainments that are being arranged for members of Congress the following will appear on the official programme.

Monday, September 2, 1929.

Afternoon.—Garden party and reception at Government House.

Evening.—Inaugural meeting and President's address.

Tuesday, September 3, 1929.

Morning.—Excursions.

Afternoon.—Excursions. Visit to Yaralla, Concord, the home of Dame Eadith Walker. The party is limited to 200 guests.

Evening.—Bridge parties.

Wednesday, September 4, 1929.

Morning.—Excursions.

Afternoon.—Excursions. Garden party at Ginahgulla, Double Bay, Miss M. E. Fairfax. This party is limited to 170 guests.

Evening.—Congress dinner at David Jones's establishment; theatre party for ladies accompanying members.

Thursday, September 5, 1929.

Morning.—Excursions.

Afternoon.—Excursions. Garden party at Killara, Mrs. E. M. Humphrey, limited to 150 guests; visit to Palm Beach, Mrs. Gordon Craig, Mrs. H. H. Bullmore and Mrs. R. B. Wade, limited to 100 guests.

Evening.—*Conversazione* by the President and the Council of the New South Wales Branch of the British Medical Association at David Jones's establishment.

Friday, September 6, 1929.

Morning.—Excursions.

Afternoon.—Excursions. Reception by the Chancellor, Deputy-Chancellor and Vice-Chancellor of the University of Sydney; musical programme by the War Memorial Carillonist; inspection of libraries and museums.

Evening.—Congress ball at the Sydney Town Hall.

Dinner given by the women members residing in Sydney to the visiting women members.

Whole day excursions will be arranged in addition to those occupying only a morning or an afternoon. The places chosen for whole day excursions will include Bulli Pass, the Blue Mountains, Burragorang and Kurrajong Heights.

Golf Competition.

In connexion with the competition for the golf cup kindly offered by Dr. T. G. Wilson, of Adelaide, the Sports Committee has made the following arrangements. The competition will be an eighteen-hole stroke handicap to be played on Friday, September 6, 1929, at the Royal Sydney Golf Club links at Rose Bay, by courtesy of the President and members of the Club. The competition will last the whole day. The entrance fee will be two shillings

and sixpence, payable at the first tee. Entries, giving the lowest club handicap, will close on Friday, August 30, 1929. They should be addressed to the joint Honorary Secretaries of Congress, Savings Bank Building, 21 to 23, Elizabeth Street, Sydney. The draw and starting times will be posted at the University of Sydney and published in the daily press on Wednesday, September 4, 1929. Dr. Wilson wishes the cup to be for competition at each session of Congress; the winner will have his name engraved on it and will hold it until the following session.

Bowls.

The Sports Committee suggests that as it is probable that some members of Congress may be bowlers, those who wish to play bowls during the week, should communicate with the Secretary of the Sports Committee, Dr. C. Shepherd, 235, Macquarie Street, Sydney, so that arrangements may be made for them to play.

The members of the Returned Medical Officers' Association of New South Wales have issued an invitation to returned medical officers from other States attending Congress to dine with them on Thursday, September 5, 1929. Those who wish to be present, are requested to inform the Secretary of the Association, Dr. A. H. Moseley, General Post Office, Sydney, as soon as possible.

Post-Graduate Work.

ADVANCED STUDIES IN ANATOMY AND PHYSIOLOGY.

THE Melbourne Permanent Committee for Post-Graduate Work has arranged a course of tutorial classes in anatomy and physiology, intended primarily for candidates for the master of surgery examination of the University of Melbourne. The classes will commence on August 1, 1929, in the Anatomy School. The fee for the course is twenty guineas. The participants are invited to meet the tutors at the Anatomy School at 4.15 p.m. on August 1, 1929, to arrange a time table.

Mr. W. A. Hailes, F.R.C.S., will give twenty lecture-demonstrations on regional anatomy; Mr. A. E. Coates, M.S., will give fifteen lecture-demonstrations on osteology; Mr. C. J. O. Brown, F.R.C.S., will give twenty-five lecture-demonstrations on surgical pathology.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on June 10, 1929.

The degree of Master of Surgery (Ch.M.) was conferred *in absentia* on Herbert Michael Moran and Frederic Lindsay Macqueen.

The following gift was accepted with grateful thanks: From Dr. Andrew Davidson a number of books and periodicals to form the nucleus of a library for the Department of Psychiatry.

The following appointments were approved:

Mr. D. P. Mellor, M.Sc., as Assistant Lecturer in Chemistry.

Mr. G. H. Godfrey, M.A., B.Sc., as part-time Demonstrator in the Department of Physics.

Dr. R. A. Money (reappointment) as Honorary Demonstrator in Anatomy.

Professor R. A. Dart, Professor of Anatomy in the University of Witwatersrand, was appointed to represent the University of Sydney at the celebrations of the Centenary of South African College at Capetown in October next.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of *The Medical Act, 1912 and 1915*, of New South Wales, as duly qualified medical practitioners:

Audley, William Ernest, M.B., 1929 (Univ. Sydney), 9, Porter Avenue, Marrickville.

Barnett, Samuel Powell, M.B., B.S., 1927 (Univ. Adelaide), Broken Hill.

Barry, Thomas, M.B., B.S., 1929 (Univ. Sydney), 6, Church Street, Randwick.

Bettington, Reginald Henshall Brindley, B.M., B.Ch., 1926 (Univ. Oxford), 8, Greenoaks Avenue, Darling Point.

Bottomley, Edward Eric, M.B., B.S., 1929 (Univ. Melbourne), Wagga Hospital.

Dalton, Reginald Thomas, M.B., B.S., 1929 (Univ. Sydney), 110, Shirley Road, Wollstonecraft.

Davies, Geoffrey Francis Seymour, M.B., B.S., 1924 (Univ. Melbourne), Royal Prince Alfred Hospital.

Elphinstone, John Stuart Foster, M.B., B.S., 1926 (Univ. Melbourne), 215, Macquarie Street, Sydney.

Fetherston, Gerald Russell, L.L.M., 1927 (R. Coll. Physc., Ireland), L.L.M., 1927 (R. Coll. Surg., Ireland), Newcastle Hospital.

Fitzgerald, Charles Edward, M.B., 1929 (Univ. Sydney), Lewisham Hospital.

McDonald, Alma Monica Dorothea, M.B., 1929 (Univ. Sydney), 157, Arden Street, Coogee.

Maitland, Duncan Geoffrey, M.B., B.S., 1929 (Univ. Sydney), 147, Macquarie Street, Sydney.

Perrett, Douglas Graham, M.B., B.S., 1929 (Univ. Sydney), Ku-ring-gai Chase Avenue, Turramurra.

Roberts, Walter McPherson, M.B., B.S., 1929 (Univ. Sydney), Pennant Hills Road, Thornleigh.

Sheldon, Rupert, M.B., B.S., 1929 (Univ. Sydney), 80, William Street, Granville.

Taylor, Joan Trenow, M.B., 1929 (Univ. Sydney), The Rectory, Wentworth Falls.

Thomas, David Lewis Gordon, M.B., B.S., 1928 (Univ. Melbourne), Moruya.

Thomas, Ivor Gwynne, M.B., B.S., 1929 (Univ. Sydney), Brynglas, West Maitland.

Thyne, Thomas Jackson, M.B., C.M., 1885 (Univ. Edinburgh), M., 1888, F., 1890, R.C.P., Edinburgh, c.o. Mr. Adamson, Pymble.

Wilson, Joseph Besnard, M.B., B.S., 1929 (Univ. Sydney), 175, Rainbow Street, Randwick.

Wiseman, John Elliott, M.B., B.S., 1929 (Univ. Sydney), Crown Street, Wollongong.

For additional registration:

Kennett, George Hedley, L.R.C.P. (London), 1928, M.R.C.S. (England), 1928, Bowenfels, Bourke Street, Goulburn.

NOTICE.

ON July 1, 1929, some letters delivered at The Printing House were stolen from the letterbox. Subsequently a few cheques were found in the Victoria Park and were returned without envelopes or covering letters to The Australasian Medical Publishing Company, Limited. We appeal to those who may have written to the company or to the journal about this time and who do not receive any acknowledgement of their letters, to communicate with us as soon as possible.

WE are anxious to obtain the following journals on loan: *Wiener Klinische Wochenschrift*, December 9, 1926 (Volume XXXIX); *Glasgow Medical Journal*, January, 1923. If any reader who takes either of these journals, would be prepared to lend the numbers sought for a fortnight, we should be greatly indebted to him and would undertake to return the journals as soon as the contained articles have been consulted.

Diary for the Month.

JULY 16.—Tasmanian Branch, B.M.A.: Council.
 JULY 16.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
 JULY 16.—New South Wales Branch, B.M.A.: Organization and Science Committee.
 JULY 17.—Western Australian Branch, B.M.A.: Branch.
 JULY 23.—New South Wales Branch, B.M.A.: Medical Politics Committee.
 JULY 23.—Illawarra Suburbs Medical Association, New South Wales.
 JULY 24.—Victorian Branch, B.M.A.: Council.
 JULY 25.—New South Wales Branch, B.M.A.: Branch.
 JULY 25.—South Australian Branch, B.M.A.: Branch.
 JULY 26.—Queensland Branch, B.M.A.: Council.

Books Received.

DISEASES OF THE THYROID GLAND, by Arthur E. Hertzler, M.D., with a chapter on Hospital Management of Goiter Patients, by Victor E. Chesky, M.D.; 1929. St. Louis: The C. V. Mosby Company. Royal 8vo., pp. 286, with illustrations. Price: \$7.50 net.
 THE PRACTICAL MEDICINE SERIES: NERVOUS AND MENTAL DISEASES, Edited by Pete Bassoe, M.D.; Series 1928; Chicago: The Year Book Publishers. Crown 8vo., pp. 378, with illustrations. Price: \$2.25 net.

Medical Appointments.

Dr. W. W. Ingram, M.C. (B.M.A.), has been appointed Medical Officer to the Mawson Expedition to Antarctica.

Dr. John Cappie Shand has been appointed Assistant Honorary Surgeon, Coast Hospital, Little Bay, New South Wales.

Dr. Emil John O'Sullivan has been appointed Acting Government Medical Officer at Rockhampton, a Health Officer under *The Health Acts, 1900 to 1922*, Visiting Surgeon to H.M. Prison, Rockhampton, and Medical Officer, State Children Department and Westwood Sanatorium, Queensland.

Dr. Joseph Stanley Verco (B.M.A.) has been appointed Honorary Deep X Ray Therapist at the Adelaide Hospital, South Australia.

Dr. Harold Alexander McCoy (B.M.A.) has been appointed Honorary Radium Therapist at the Adelaide Hospital, South Australia.

Dr. John Newman Morris (B.M.A.) and Dr. James Livingstone Thompson (B.M.A.) have been appointed Members of the Charities Board of Victoria.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page ix.

AUSTRALASIAN MASSAGE ASSOCIATION, NEW SOUTH WALES: Lecturers, Instructor.

DEPARTMENT OF PUBLIC INSTRUCTION, VICTORIA: Medical Officer.

NEWCASTLE HOSPITAL, NEWCASTLE, NEW SOUTH WALES: Resident Pathologist.

ROYAL PRINCE ALFRED HOSPITAL, SYDNEY: Honorary Vacancies.

ST. MARGARET'S HOSPITAL, SYDNEY: Resident House Surgeon.

THE QUEEN'S (MATERNITY) HOME, ROSE PARK, SOUTH AUSTRALIA: Resident House Surgeon.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company, Limited. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital. Toowoomba Friendly Societies Medical Institute. Mareeba Hospital.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Medical practitioners are requested not to apply for appointments to position at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)

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